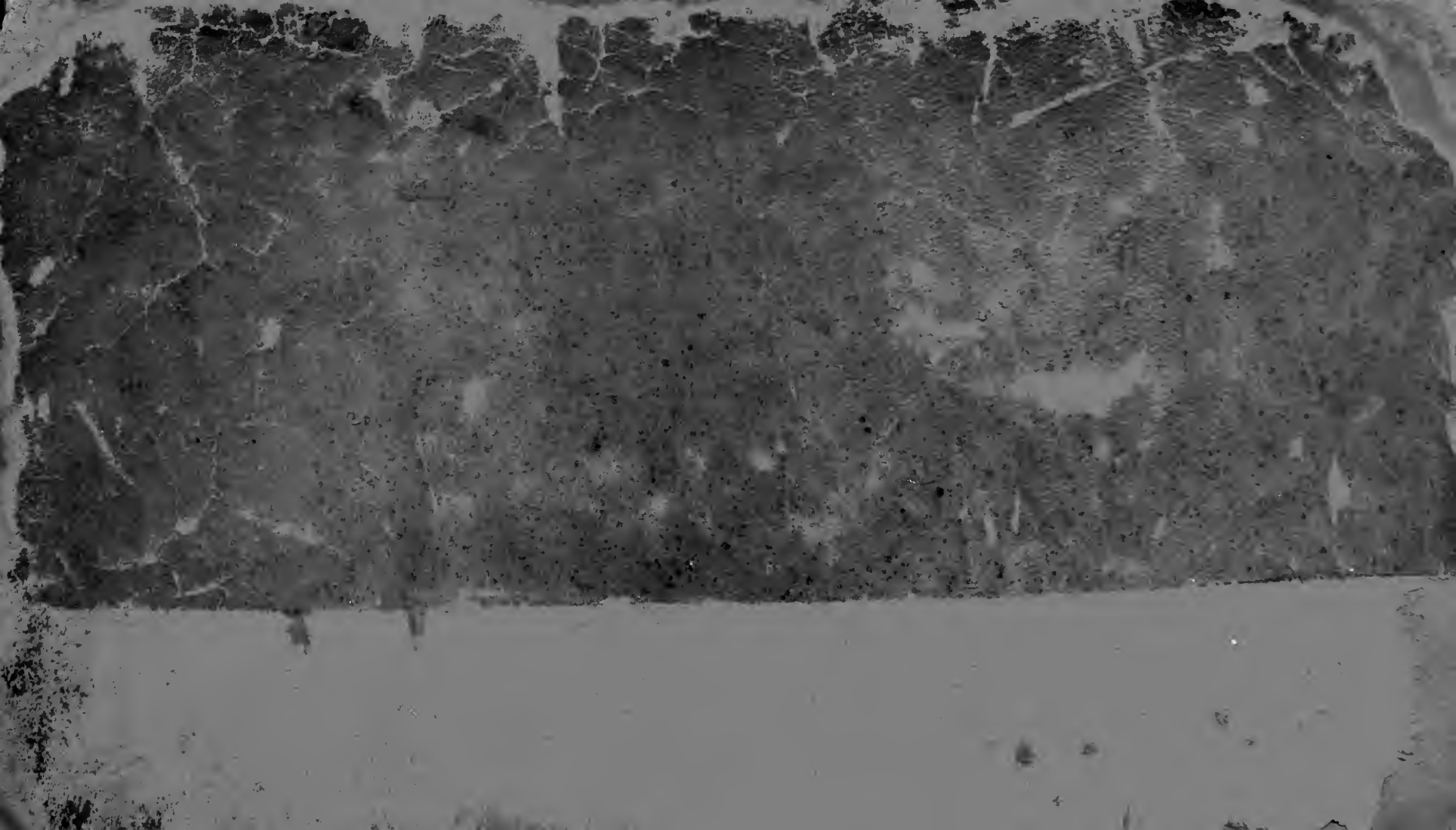

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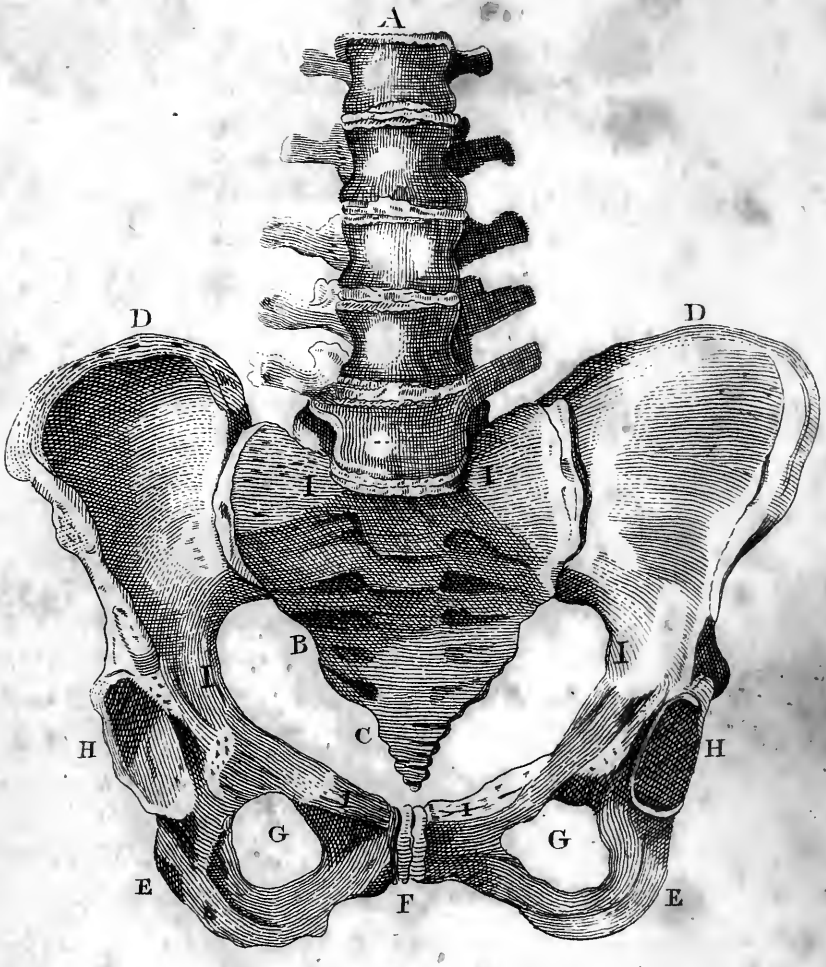
ANATOMICAL
TABLES

Plate I.



A SET OF

ANATOMICAL TABLES,

WITH

EXPLANATIONS,

AND AN ABRIDGMENT OF THE

PRACTICE OF MIDWIFERY,

WITH A VIEW TO ILLUSTRATE

A TREATISE ON THAT SUBJECT, AND COLLECTION OF CASES.

BY *WILLIAM SMELLIE*, M. D.

TO WHICH ARE ADDED,

NOTES AND ILLUSTRATIONS,

Adapted to the preſent IMPROVED METHOD of PRACTICE.

BY A. HAMILTON, M. D. F. R. S. EDINBURGH,

and Profeſſor of Midwifery in the Univerſity of Edinburgh.

FIRST *WORCESTER* EDITION,

With an entire New Set of Plates, carefully CORRECTED and REVISED.

PRINTED at WORCESTER, MASSACHUSETTS,

BY ISAIAH THOMAS.

Sold at his Bookſtore in WORCESTER; by ſaid THOMAS, and ANDREWS, Fauſt's Statue, Newbury Street, BOSTON; and by ſaid THOMAS, and CARLISLE, in WALPOLE, Newhampſhire.

MDCCXCIII.

A SET OF

PREFACE.

As, in a long course of teaching and practice in Midwifery, I hope I may without vanity say, that I have done something towards reducing that Art into a more simple and mechanical method than has hitherto been done; I have attempted to explain the same in my Treatise on the Theory and Practice of Midwifery and Collection of Cases; and finding that most of the representations hitherto given of the parts subservient to Uterine Gestation *and* Parturition *were in many respects deficient, I have been induced to undertake the following* Tables, *with a view to supply in some measure the defects of others, and at the same time to illustrate what I have taught and written on the subject. How far I have obtained those ends, it belongs to others to judge. I shall only beg leave to observe here by way of Preface, that the greatest part of the figures were taken from subjects prepared on purpose, to show every thing that might conduce to the improvement of the young Practitioner: Avoiding, however, the extreme* Minutiæ, *and what else seemed foreign to the present design; the situation of parts, and their respective dimensions, being more particularly attended to, than a minute anatomical investigation of their structure.*

As these Tables *may possibly fall into the hands of some who have not seen my former work, I*

have

have added an abridgment of the Practice; which, though far from being complete, may ſerve to illuſtrate ſeveral things which otherwiſe by a bare repreſentation would be hardly intelligible.

References are made to Vol. I, II, and III. By Vol. I, *I mean that which I firſt publiſhed in the year* 1752, *and contains a view of the Theory and Practice of Midwifery;* Vol. II, *and* III, *contain the Collection of Caſes mentioned above. My firſt plan for theſe* Tables *confined them to the number of twenty two, which Mr.* Rymſdyke *had finiſhed above two years ago; but I ſoon ſaw that a farther illuſtration, and conſequently an addition to that number, was neceſſary. In eleven of theſe, Dr.* Camper, *formerly* Profeſſor of Medicine *at* Franequer *in* Frieſland, *now* Profeſſor of Anatomy *and* Botany *at* Amſterdam, *greatly aſſiſted me*, viz. *Table XII, XVI, XVII, XVIII, XIX, XXIV, XXVI, XXVII, XXVIII, XXXIV, and XXXVI. The reſt were drawn by Mr.* Rymſdyke; *except the thirty ſeventh and thirty ninth, which were done by another hand. The whole of the drawings are faithfully engraved: In which, however, delicacy and elegance have not been ſo much conſulted, as to have them done in a ſtrong and diſtinct manner; with this view chiefly, that from the cheapneſs of the work it may be rendered of more general uſe.*

EXPLANATIONS

OF A SET OF

ANATOMICAL TABLES,

WITH AN ABRIDGMENT OF THE

PRACTICE OF MIDWIFERY.

FIRST TABLE

REPRESENTS, in a front view, the bones of a well formed *Pelvis.*

A. The five *Vertebræ* of the loins.
B. The *Os Sacrum.*
C. The *Os Coccygis.*
D. D. The *Offa Iliûm.*
E. E. The *Offa Iſchiûm.*
F. The *Offa Pubis.*
G. The *Foramina Magnus.*
H. H. The *Acetabula.*

I. I. I. I. I. I. The brim of the *Pelvis*, or that circumference of its cavity, which is deſcribed at the ſides, by the inferior parts of the *Offa Iliûm*,

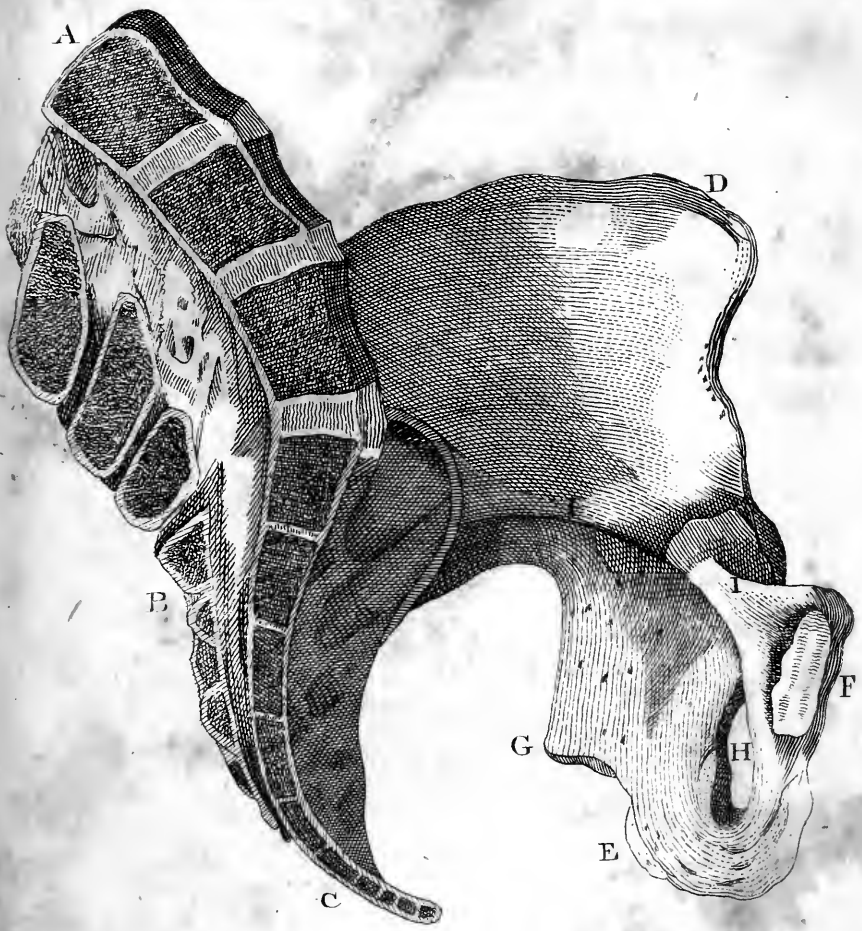
and at the back and fore parts, by the ſuperior parts of the *Oſſa Pubis* and *Sacrum*.

In this table, beſides the general ſtructure and figure of the ſeveral bones, the dimenſions of the brim of the *Pelvis*, and the diſtance between the under parts of the *Oſſa Iſchiûm*, are particularly to be attended to, from which it will appear that the cavity of the brim is commonly wider from ſide to ſide, than from the back to the fore part, but that the ſides below are in the contrary proportion. The reader, however, ought not from this to conclude, that every *Pelvis* is ſimilar in figure and dimenſions, ſince even well formed ones differ in ſome degree from each other. In general, the brim of the *Pelvis* meaſures about five inches and a quarter from ſide to ſide, and four inches and a quarter from the back to the fore part; there being likewiſe the ſame diſtance between the inferior parts of the *Oſſa Iſchiûm*. All theſe meaſures, however, muſt be underſtood as taken from the ſkeleton, for in the ſubject, the cavity of the *Pelvis* is conſiderably diminiſhed by its teguments and contents. Correſpondent alſo to this diminution, the uſual dimenſions of the head of the full grown *Fœtus* are but three inches and a half from ear to ear, and four inches and a quarter from the fore to the hind head.

Vide Tab. XVI, XVII, XVIII. Alſo, Vol. I. Chap. 1. Sect. 1, 2, 3. where the form and dimenſions of the *Pelvis*, as well as of the head of the *Fœtus*, and the manner in which the ſame is

protruded

Plate II.



protruded in labour through the baſon, are fully treated of. Conſult likewiſe Vol. II. Coll. 1. No. 1, 2. where caſes are given of complaints of the *Pelvis* ariſing from difficult labours.

SECOND TABLE

Gives a lateral and internal view of the *Pelvis*, the ſame being divided longitudinally.

A. The three lower *Vertebræ* of the loins.
B. The *Os ſacrum*.
C. The *Os Coccygis*.
D. The left *Os Iliûm*.
E. The left *Os Iſchiûm*.
F. The *Os Pubis* of the ſame ſide.
G. The acute proceſs of the *Os Iſchiûm*.
H. The *Foramen Magnum*.
I. I. I. The brim of the *Pelvis*.

This plate ſhows the diſtance from the ſuperiour part of the *Os Sacrum* to the *Oſſa Pubis*, as well as from the laſt mentioned bones to the *Coccyx*, which in each amounts to about four inches and a quarter. The depth likewiſe is ſhown of the poſterior, lateral, and anterior parts of the *Pelvis*, not in the line of the body, but in that of the *Pelvis* from its brim downward, which

is generally three times deeper on the poſterior than anterior part, and twice the depth of the laſt at the ſides.

From this view appears alſo the angle which is formed by the laſt *Vertebra* of the loins and the ſuperior part of the *Os Sacrum*, as likewiſe the concavity or hollow ſpace in the poſterior internal part of the *Pelvis*, ariſing from the curvature of the laſt mentioned bone and *Coccyx*; finally, the diſtance from which to the poſterior parts of the *Oſſa Iſchiûm* is here expreſſed.

Vide Tab. XVI, XVII, XVIII, XIX, Alſo, Vol. I, and II, as referred to in the former table.

THIRD TABLE

Exhibits a front view of a diſtorted *Pelvis*.

A. The five *Vertebræ* of the loins.
B. The *Os Sacrum*.
C. The *Os Coccygis*.
D. D. The *Oſſa Iliûm*.
E. E. The *Oſſa Iſchiûm*.
F. The *Oſſa Pubis*.
G. G. The *Foramina Magna*.
H. H. The *Acetabula*.

From this plate may appear the great danger incident to both mother and child when the *Pel-*

Plate III.

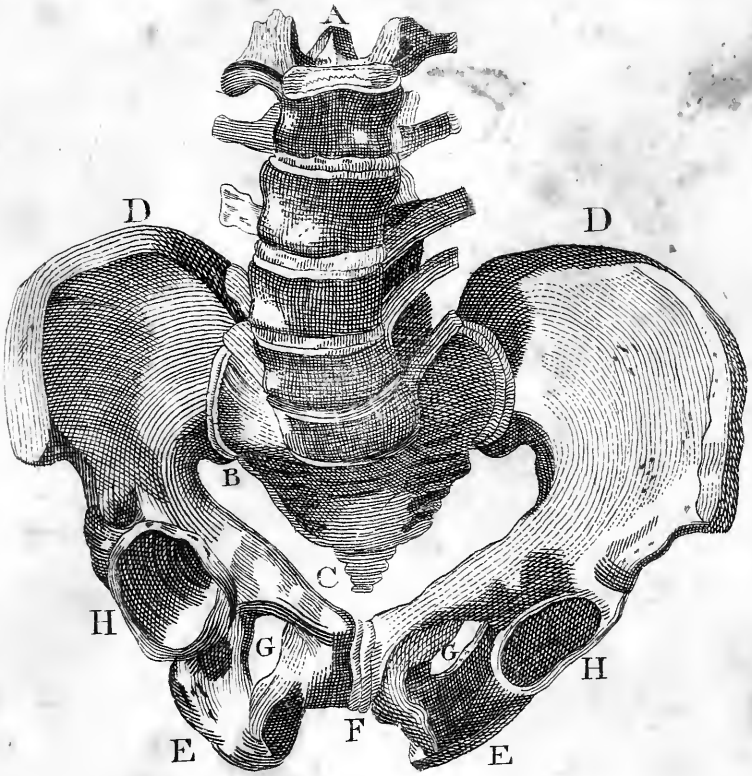
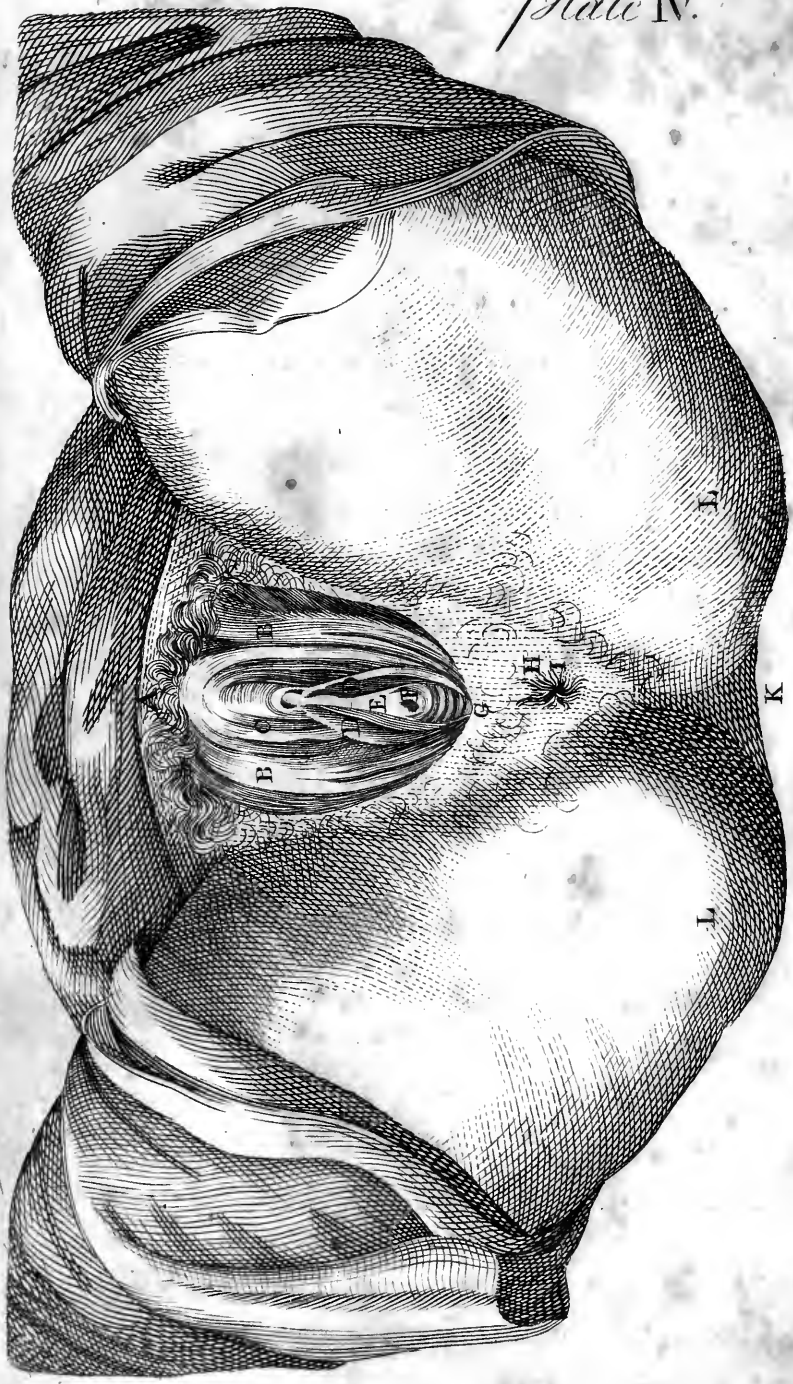


Plate IV.



vis is distorted in this manner; it being only two inches and an half at the brim from the posterior to the anterior part, and the same distance between the inferior parts of each *Os Ischiûm*. *Vide* Tab. XXVII, where the *Pelvis* is one quarter of an inch narrower at the brim than this, but sufficiently wide below. Various are the forms of distorted basons, but the last mentioned is the most common. It is a great happiness, however, in practice, that they are seldom so narrow, though there are instances where they have been much more so. The danger in all such cases must increase or diminish, according to the degree of distortion of the *Pelvis*, and size of the child's head.

Vide Vol. I. Book 1. Chap. I. Sect. 4, 5. And Vol. II. Coll. 1. No. 3, 4, 5. Also, Coll. 21, 27, and 29.

FOURTH TABLE.

Shows the external female parts of generation.

A. The lower part of the *Abdomen*.
B. B. The *Labia Pudendi* separated.
C. The *Clitoris* and *Præputium*.
D. D. The *Nymphæ*.
E. The *Fossa Magna*, or *Os Externum*.

F. The *Meatus Urinarius.*

G. The *Frænum Labiorum.*

H. The *Perinæum.*

I. The *Anus.*

K. The part that covers the extremity of the *Coccyx.*

L. L. The parts that cover the tuberoſities of the *Oſſa Iſchiûm.*

As it is of great conſequence to every practitioner in midwifery, to know exactly the ſituation of the parts concerned in parturition, and which have not been accurately deſcribed by former Anatomiſts, with a view to this particular branch, I have given this draught from one of the preſerved ſubjects which I keep by me, in order to demonſtrate theſe parts in the ordinary courſe of my lectures. From a view then of the ſituation of the parts, it appears that the *Os Externum* is not placed in the middle of the inferior part of the *Pelvis*, but at the anterior and inferior part of the *Pubes*, and that the *Labia* cover likewiſe the anteriour part of theſe bones.

Secondly, It may be obſerved, that as the *Frænum Labiorum*, which is nearly adjoining to the inferior part of the *Oſſa Pubis*, is only about an inch from the *Anus*, between which and the *Coccyx* there is about three inches diſtance, it follows, that the *Anus* is nearer to the firſt mentioned bones than to the latter.

Thirdly,

Thirdly, The view of this and the following table will furniſh proper hints, with reſpect to the method of touching or examining the *Os Uteri*, without hurting or inflaming the parts, as it appears that the *Os Externum* is placed forwards towards the *Pubes*, and the *Os Uteri* backwards towards the *Rectum* and *Coccyx*. By this wiſe mechaniſm of nature many inconveniences are often prevented, which muſt happen if theſe parts were oppoſite to each other, and ſituated in the middle of the inferior part of the *Pelvis*, particularly a *Prolapſus* of the *Vagina* and *Uterus*, either in the unimpregnated ſtate, or in any of the firſt four months of pregnancy; as alſo too ſudden deliveries in any of the laſt months.

Fourthly, From a view of the ſituation of the parts, it will appear, that in labour, when the *Os Uteri* is ſufficiently opened to allow a paſſage for the head of the *Fœtus*, the ſame is protruded to the lower part of the *Vagina*, by which the external parts are puſhed out in form of a large tumor, as in Table XV.

Laſtly, It may be obſerved, that when it is neceſſary to dilate the *Os Externum*, the principal force ought to be applied downwards and towards the *Rectum*, to prevent the *Urethra* and neck of the bladder from being hurt or inflamed.

Vide Vol. I. Book I. Chap. 2. Sect. 1. Vol. II. Coll. 2.

FIFTH TABLE.

FIGURE I. Gives a front view of the *Uterus* in *Situ* ſuſpended in the *Vagina*; the anterior parts of the *Oſſa Iſchiûm* with the *Oſſa Pubis*, *Pudenda*, *Perinæum*, and *Anus*, being removed in order to ſhew the internal parts.

A. The laſt *Vertebra* of the loins.

B. B. The *Oſſa Iliûm*.

C. C. The *Acetabula*.

D. D. The inferior and poſterior parts of the *Oſſa Iſchiûm*. *Vide* Tab. XXIX, where the *Oſſa Pubis* and the anterior parts of the *Oſſa Iſchiûm* are repreſented by dotted lines.

E. The part covering the extremity of the *Coccyx*.

F. The inferior part of the *Rectum*.

G. G. The *Vagina* cut open longitudinally, and ſtretched on each ſide of the *Collum Uteri*, to ſhew in what manner the *Uterus* is ſuſpended in the ſame.

H. H. Part of the *Veſica Urinaria* ſtretched on each ſide of the *Vagina* and inferior part of the *Fundus Uteri*.

I. The *Collum Uteri*.

K. The *Fundus Uteri*.

L. L. The *Tubæ Fallopianæ* and *Fimbriæ*.

M. M. The *Ovaria*.

N. N.

Plate V.

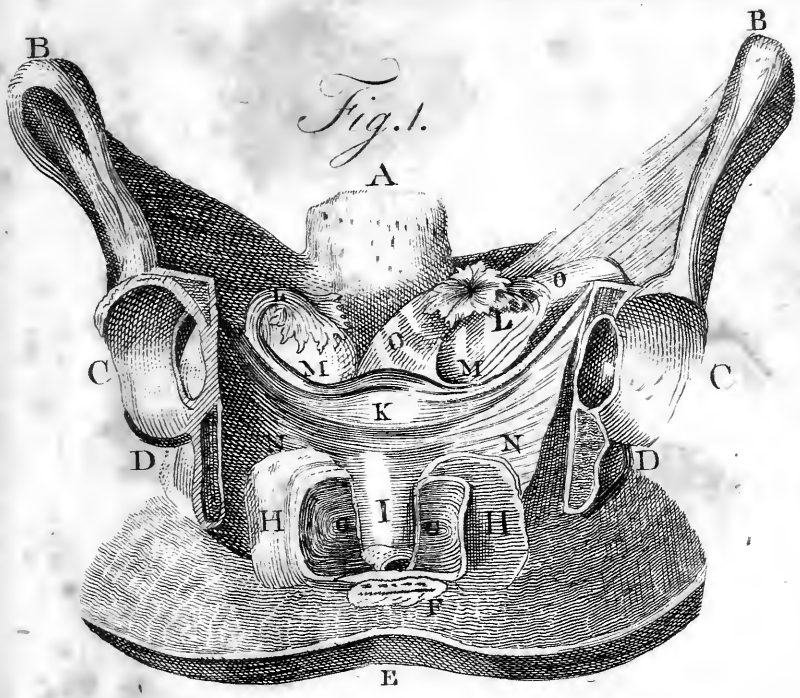


Fig. 1.
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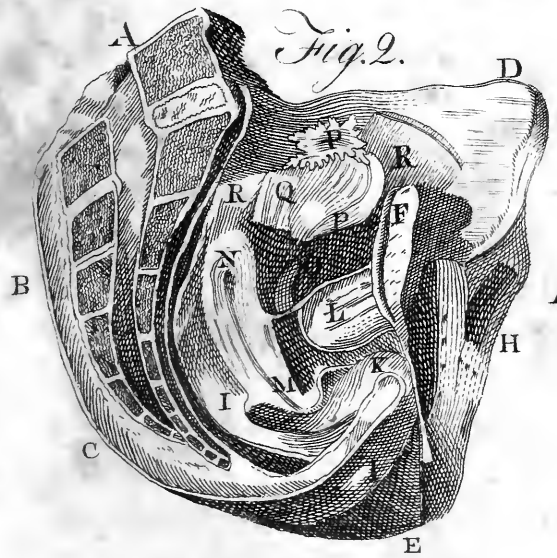
Fig. 2.
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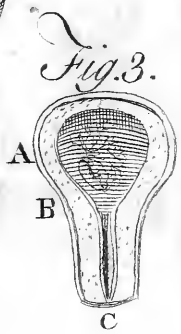


Fig. 3.
A
B
C

N. N. The *Ligamenta Lata* and *Rotunda*.

O. O. The ſuperior part of the *Rectum*.

FIGURE II. Gives a view of the internal parts as ſeen from the right *Groin*, the *Pelvis* being divided longitudinally.

A. The loweſt *Vertebra* of the loins.

B. C. The *Os Sacrum* and *Coccyx*, with the Integuments.

D. The left *Os Iliûm*.

E. The inferior part of the left *Os Iſchiûm*.

F. The *Os Pubis* of the ſame ſide.

G. The *Foramen Magnum*.

H. The *Acetabulum*.

I. I. I. The inferiour part of the *Rectum* and *Anus*.

K. The *Os Externum* and *Vagina*; the *Os Uteri* lying looſely in the ſame.

L. The *Veſica Urinaria*.

M. N. The *Collum* and *Fundus Uteri*, with a view of the cavity of both. The attachment of the *Vagina* round the outſide of the lips of the mouth of the *Womb* is here likewiſe ſhown, as alſo the ſituation of the *Uterus*, as it is preſſed downwards and backwards by the *Inteſtines* and *Urinary Bladder*, into the concave, and inferiour part of the *Os Sacrum*.

O. The *Ligamenta Lata* and *Rotunda* of the left ſide.

P. P. The *Fallopian* tube, with the *Fimbriæ*.

Q. The *Ovarium* of the ſame ſide.

R. R.

R. R. The ſuperior part of the *Rectum*, and inferior part of the *Colon*.

FIGURE III. Gives a front view of the *Uterus* in the beginning of the firſt month of pregnancy; the anterior part being removed, that the *Embryo* might appear through the *Amnois*, the *Chorion* being diſſected off.

A. The *Fundus Uteri*.

B. The *Collum Uteri*, with a view of the rugous canal that leads to the cavity of the *Fundus*.

C. The *Os Uteri*.

Vide Vol. I. Book I. Chap. 2. Sect. 2, 3. Vol. II. Coll. 3.

SIXTH TABLE.

FIGURE I. In the ſame view and ſection of the parts as in the firſt figure of the former table, ſhows the *Uterus* as it appears in the ſecond or third month of pregnancy, its anterior part being here likewiſe removed.

F. The *Anus*.

G. The *Vagina* with its *Plicæ*.

H. H. The poſterior and inferior part of the *Urinary*

Plate VI.

Fig. 1.

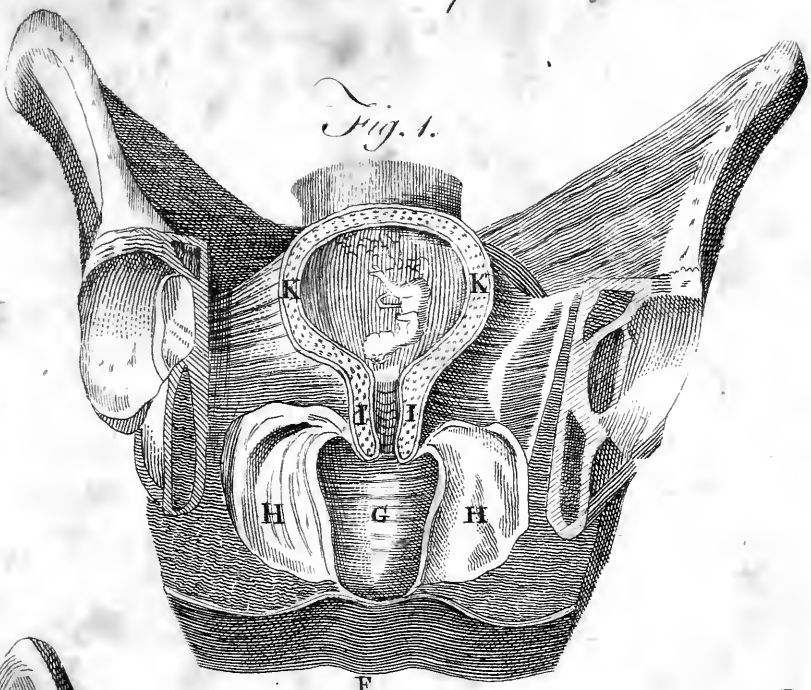
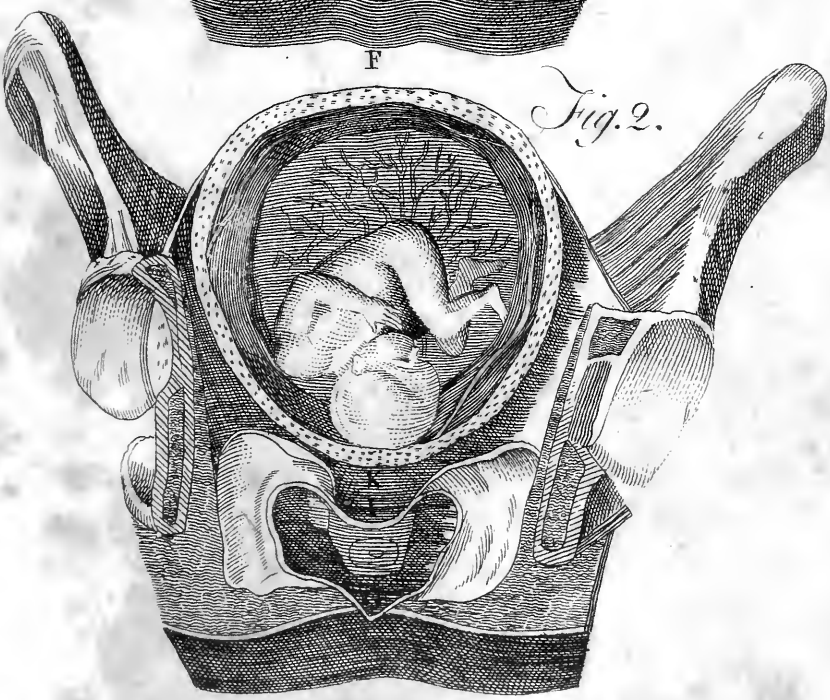


Fig. 2.



Urinary Bladder extended on each ſide, the anterior and ſuperior part being removed.

I. I. The mouth and neck of the *Womb*, as raiſed up when examining the ſame by the touch, with one of the fingers in the *Vagina*.

K. K. The *Uterus* as ſtretched in the ſecond or third month, containing the *Embryo* with the *Placenta* adhering to the *Fundus*.

It appears from this and the former table, that at this time nothing can be known, with reſpect to pregnancy, from the touch in the *Vagina*, as the reſiſtance of the *Uterus* is ſo inconſiderable that it cannot prevent its being raiſed up before the finger; and even were it kept down, the length of the neck would prevent the ſtretching being perceptible. The *Uterus* likewiſe not being ſtretched above the *Pelvis*, little change is made as to the figure of the *Abdomen*, further than that the *Inteſtines* are raiſed a little higher; whence poſſibly the old obſervation of the *Abdomen* being a little flatter at this period than uſual from the *Inteſtines* being preſſed more to each ſide. Women at this period miſcarry oftener than at any other: It is a great happineſs, however, in practice, that although they are frequently much weakened by large diſcharges, yet they rarely ſink under the ſame, but are ſooner or later relieved by labour coming on, which gradually ſtretches the neck and mouth of the *Womb*, by the *Membranes* being forced down with the waters, and if the *Placenta* is ſeparated from the internal ſurface

of

of the *Uterus*, all its contents are diſcharged. But if the *Placenta* ſtill adheres, the *Membranes* break, the waters and *Fœtus* are expelled, and the flooding diminiſhes from the *Uterus* contracting cloſe to the *Secundines*, which alſo are uſually diſcharged ſooner or later.

From the ſtructure finally of the parts, as repreſented in this and the former table, it may appear that it is much ſafer to reſtrain the flooding, and ſupport the patient, waiting with patience the efforts of nature, than to endeavour to ſtretch the *Os Uteri*, and deliver either with the hand or inſtruments, which might endanger a laceration and inflammation of the parts.

Vide C. in Table XXXVII. Alſo, Vol. I. Book II. Chap. 2. Sect. 2, 3, 4. Vol. II. Coll. 12. No. 2.

FIGURE II. Repreſents the *Uterus* in the fourth or fifth month of pregnancy, in the ſame view and ſection of the parts with the former figure, excepting that in this the anterior part of the *Collum Uteri* is not removed.

In the natural ſituation, the mouth and lips of the *Womb* are covered with the *Vagina*, and theſe parts are contiguous to each other, but here the *Vagina* G. is a little ſtretched from the neck and lips of the former, in order to ſhow the parts more diſtinctly. I. The neck of the *Womb*, which appears in this figure thicker, ſhorter, and ſofter than in the former. K. The inferiour part of the *Fundus Uteri*, the ſtretching of which can

ſometimes

ſometimes be felt through the *Vagina*, by puſhing up a finger on the anterior or lateral part of the ſame.

The *Uterus* now is ſo largely ſtretched as to fill all the upper part of the *Pelvis*, and begins alſo to increaſe ſo much as to reſt on the brim, and to be ſupported by the ſame, the *Fundus* at the ſame time being raiſed conſiderably above the *Pubes*. From the *Abdomen* being now more ſtretched, the woman is more ſenſible of her growing bigger, and the *Uterus* alſo, from the counter-preſſure of the contents and parietes of the *Abdomen*, is kept down, and the *Os Uteri* prevented from riſing before the finger as formerly. In lean women, the ſtretching of the *Uterus* can ſometimes be perceived in the *Vagina* at this period as well as above the *Pubes*: But nothing certain can be diſcovered from the reſiſtance or feel of the mouth of the *Womb* or *Lips*, which are commonly the ſame in the firſt months of pregnancy as before it.

The ſize or bulk of the *Fœtus* is finally here to be obſerved, with the *Placenta* adhering to the poſterior part of the *Uterus*.

Vide the references to Vol. I, and II, in the former table.

SEVENTH

SEVENTH TABLE

Repreſents the *Abdomen* of a woman opened in the ſixth or ſeventh month of pregnancy.

A. A. A. A. The parietes of the *Abdomen* opened, and turned back to ſhow

B. The *Uterus*.

C. C. C. The *Inteſtines* raiſed upwards.

D. The *Labia Pudendi*, which are ſometimes affected in pregnancy with *Oedematous* ſwellings, occaſioned by the preſſure of the *Uterus* upon the returning veins, and *Lymphatics*. If the *Labia* are ſo tumefied as to obſtruct the patient's walking, the complaint is removed by puncturing the parts affected. By which means the ſerous fluid is diſcharged for the preſent, but commonly recurs; and the ſame operation muſt be repeated ſeveral times, perhaps, before delivery, after which, however, the tumefaction entirely ſubſides. Here it may be obſerved, that this complaint can ſeldom or never obſtruct delivery, as the *Labia* are ſituated at the anterior part of the *Oſſa Pubis*, and can rarely affect the ſtretching of the *Frænum*, *Perinæum*, *Vagina*, and *Rectum*. From this figure it appears that the ſtretching of the *Uterus* can eaſily be felt at this period in lean ſubjects, through the parietes of the *Abdomen*; eſpecially if the *Inteſtines* do not lie before it. In general, indeed, as the *Uterus* ſtretches, it riſes

higher,

Plate VII.

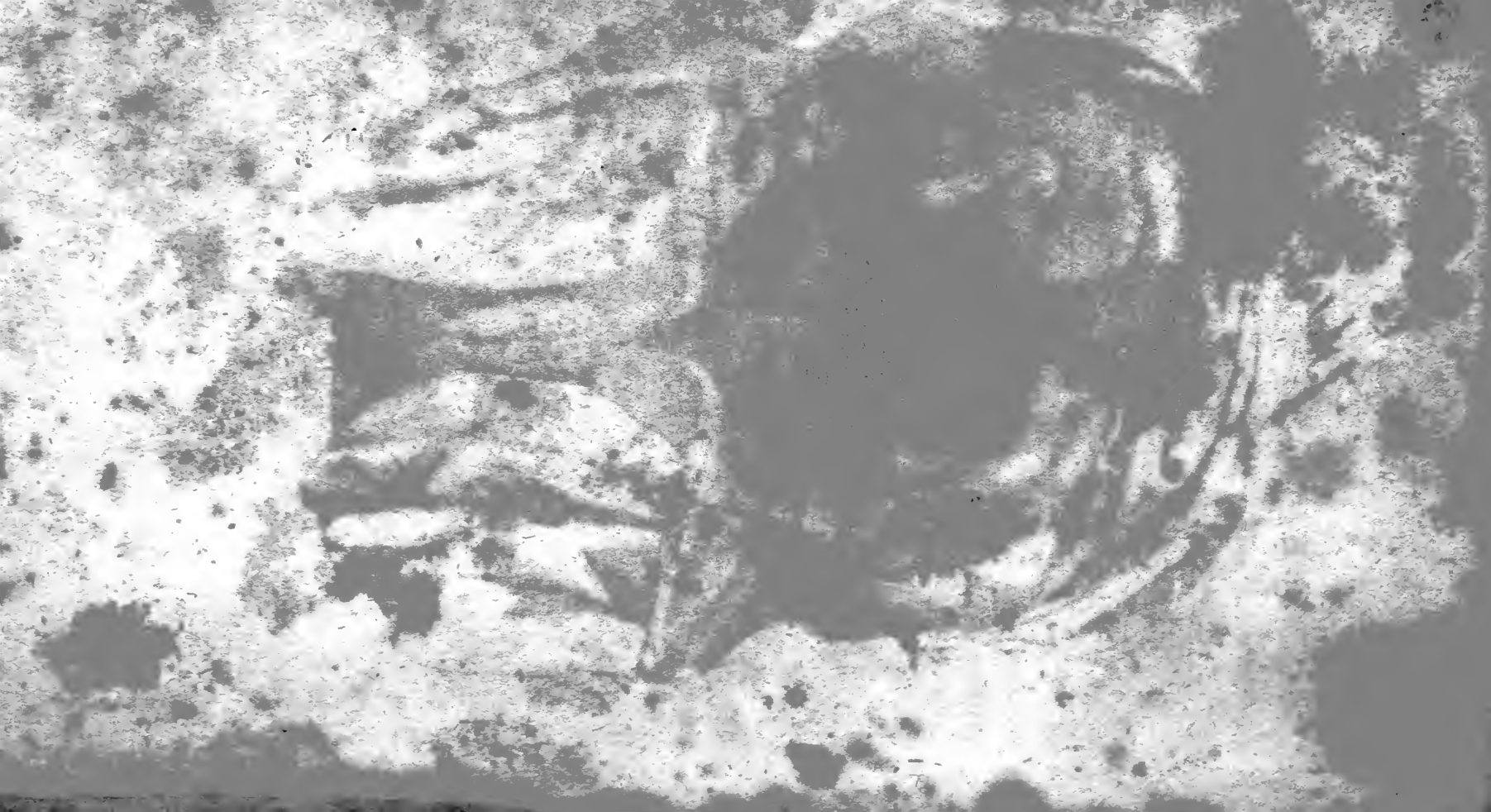
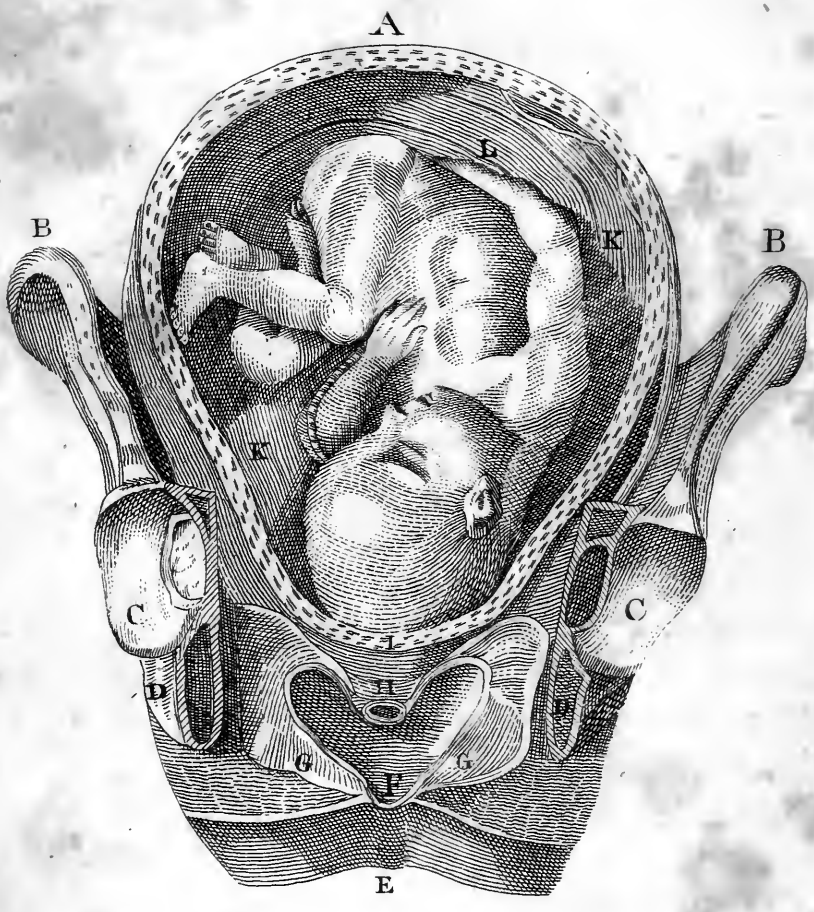


Plate VIII.



higher, by which means the *Inteſtines* are likewiſe raiſed higher, and are alſo preſſed to each ſide. Hence the nearer the woman is to her full time, the ſtretching is the more eaſily felt.

N. B. Oedematous ſwellings, ſymptomatick of pregnancy, affecting the labia, have in few, if any inſtances, been obſerved to interrupt the progreſs of labour; therefore the diſcharge of the ſerous fluid by puncture is ſeldom requiſite; and *repeated puncture* in advanced geſtation might be attended with diſagreeable conſequences.

Vide Vol. I. Book I. Chap. 3. Sect. 3. Book III. Chap. 1. Sect. 2. and Vol. II. Coll. 12, 13.

EIGHTH TABLE.

In the ſame view and ſection of the parts as in Table VI. is repreſented the *Uterus* of the former table, in order to ſhew its contents, and the internal parts as they appear in the ſixth or ſeventh month of pregnancy.

A. The *Uterus* ſtretched up to the *Umbilical* region.

B. B. The ſuperior part of the *Oſſa Ilium.*

C. C. The *Acetabula.*

D. D. The remaining poſterior parts of the *Oſſa Iſchium.*

E. The *Anus.*

F. The

F. The *Vagina.*

G. The bladder of *Urine.*

H. The neck of the *Womb* ſhorter than in Table VI, and raiſed higher by the ſtretching of the *Uterus* above the brim of the *Pelvis.*

I. The veſſels of the *Uterus* larger than in the unimpregnated ſtate.

K. K. The *Placenta* adhering to the inferior and poſterior part of the *Uterus.*

L. L. The *Membranes* that ſurround the *Fœtus,* the head of which is here repreſented, as well as of thoſe in Table VI, ſituated downwards at the inferiour part of the *Uterus,* and which I am apt to believe is the uſual ſituation of the *Fœtus,* when at reſt, and ſurrounded with a great quantity of waters, as the head is heavier than any other part. With reſpect to the ſituation of the body of the *Fœtus,* though the fore parts are often turned towards the ſides and poſterior parts of the *Uterus,* they are here as well as in the foregoing table repreſented at the anterior part or forwards, in order to ſhow them in a more diſtinct and picturesque manner.

Vide Vol. I. Book I. Chap. 3. Sect. 3, 4. Vol. II. Coll. 13. No. 1.

From this table may appear the difficulty of ſtretching the *Os Uteri* in flooding caſes, even at this period, from the length and thickneſs of the neck of the *Womb,* eſpecially in a firſt pregnancy: Much the ſame method, however, is to be followed here as was directed in table VI, until labour comes

comes on to dilate the *Os Uteri*. If the flooding is then conſiderable, the *Membranes* ſhould be broken, that the *Uterus* may contract, and thereby leſſon the diſcharge. The labour likewiſe, if it is neceſſary, may be aſſiſted by dilating the *Os Uteri* in time of the pains; which alſo, if wanting, may be provoked by the ſame method when the patient is in danger. If this danger is imminent, and the woman ſeems ready to expire, the *Uterus*, as appears from this table, is at this time ſufficiently ſtretched to receive the operator's hand to extract the *Fœtus*, if the *Os Internum* can be ſafely dilated.

Laſtly, It may be obſerved that women are in greater danger at this period, and afterwards, than in the former months.

Vide Vol. I. Book III. Chap. 4. Sect. 3. No. 1, 2, 3. Vol. III. Coll. 33. No. 2. See alſo in the *Edinburgh* Phyſical and Literary Obſervations, Art. XVII, the diſſection of a woman with child, by Dr. *Donald Munro*, phyſician at *London*.

See, Directions for the management in caſes of flooding, Dr. *Hamilton*'s Outlines of Midwifery, page 401.

NINTH TABLE,

In the ſame view and ſection of the parts with the former, repreſents the *Uterus* in the eighth or ninth month of pregnancy.

A. The *Uterus* as ſtretched to near its full extent, with the waters, and containing the *Fœtus* entangled in the *Funis*, the head preſenting at the upper part of the *Pelvis*.

B. B. The ſuperior part of the *Oſſa Iliûm*.

C. C. The *Acetabula*.

D. D. The remaining poſterior parts of the *Oſſa Iſchiûm*.

E. The *Coccyx*.

F. The inferior part of the *Rectum*.

G. G. G. The *Vagina* ſtretched on each ſide.

H. The *Os Uteri*, the lips of which appear larger and ſofter than in the foregoing table, the neck of the *Womb* being likewiſe ſtretched to its full extent, or entirely obliterated.

I. I. Part of the *Veſica Urinaria*.

K. K. The *Placenta* at the ſuperior and poſterior part of the *Uterus*.

L. L. The *Membranes*.

M. The *Funis Umbilicalis*.

This and the foregoing table ſhow in what manner the *Uterus* ſtretches, and how its neck grows ſhorter, in the different periods of pregnancy; as alſo the magnitude of the *Fœtus*, in order more fully to explain Vol. I. Book I. Chap. 3. Sect. 4, 5. Alſo Book III. Chap. 1. Sect. 1, 2. Likewiſe Vol. II. Coll. 13. No. 1.

Notwithſtanding it has been handed down as an invariable truth, from the earlieſt accounts of the art, to the preſent times, that when the head of the *Fœtus* preſented, the face was turned to the

poſterior

Plate IX.

posterior part of the *Pelvis*, yet from Mr. *Ould's* observation, as well as from some late dissections of the *gravid Uterus*, and what I myself have observed in practise, I am led to believe that the head presents for the most part as is here delineated, with one ear to the *Pubes*, and the other to the *Os Sacrum*; though sometimes this may vary, according to the form of the head, as well as that of the *Pelvis*.

Consult Dr. *Hunter's* elegant plates of the *gravid Uterus*.

TENTH TABLE

Gives a front view of Twins in *Utero*, in the beginning of labour, the anterior parts being removed, as in the preceding tables.

A. The *Uterus*, as stretched with the *Membranes* and waters.

B. B. The superior parts of the *Ossa Ilium*.

C. C. The *Acetabula*.

D. D. The *Ossa Ischium*.

E. The *Coccyx*.

F. The lower part of the *Rectum*.

G. G. The *Vagina*.

H. The *Os Internum* stretched open about a finger's breadth with the *Membranes* and waters in time of labour pains.

I. I. The inferior part of the *Uterus* ſtretched with the waters which are below the head of the child that preſents.

K. K. The two *Placentas* adhering to the poſterior part of the *Uterus*, the two *Fœtuſes* lying before them, one with its head in a proper poſition, at the inferior part of the *Uterus*, and the other ſituated preternaturally, with the head to the *Fundus*: The bodies of each are here entangled in their proper *Funis*, which frequently happens in the natural as well as preternatural poſitions.

L. L. L. The *Membranes* belonging to each *Placenta*.

This repreſentation of twins, according to the order obſerved in my Treatiſe of Midwifery, ought to have been placed among the laſt tables; but as that was of no conſequence, I have placed it here in order to ſhow the *Os Uteri* grown much thinner than in the former figure, a little open, and ſtretched by the waters and *Membranes* which are puſhed down before the head of one of the *Fœtuſes* in time of a labour pain. With reſpect to the poſition of twins, it is often different in different caſes; but was thus, in a late diſſection of a *gravid Uterus* by Dr. *Mackenzie*.

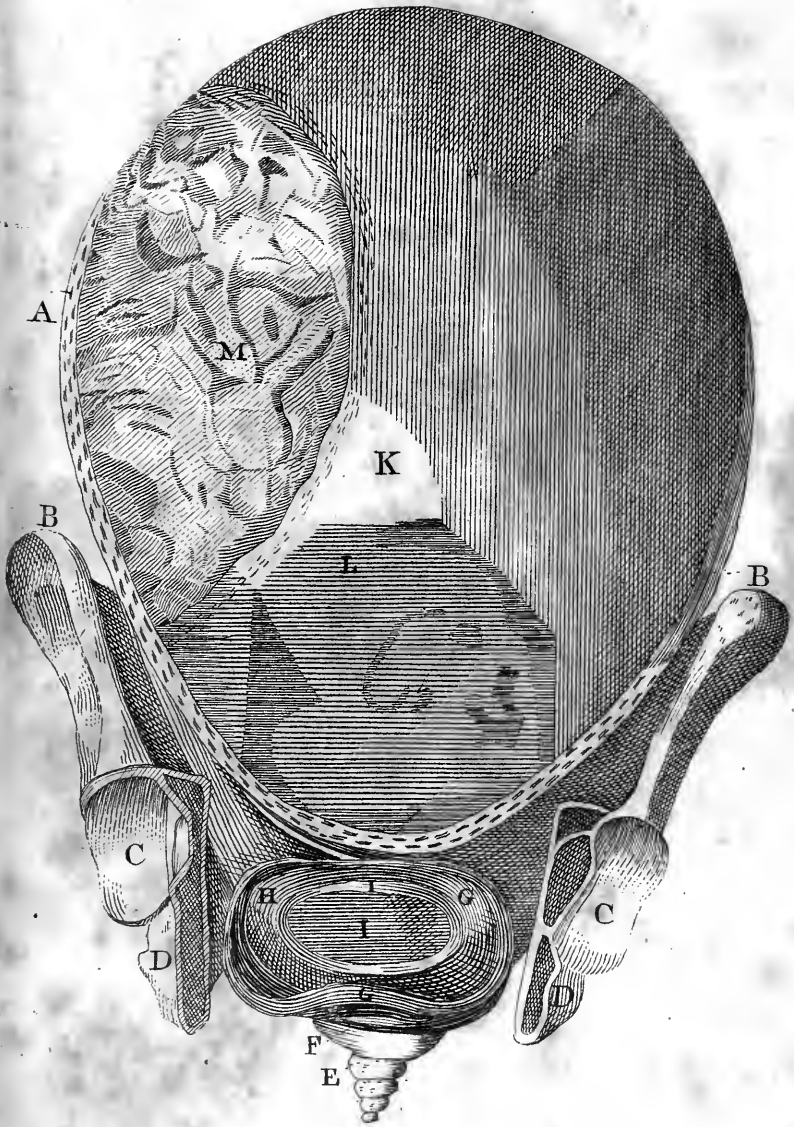
Vide Vol. I. Book III. Chap. 1. Sect. 4. and Chap. 5. Sect. 1. and Vol. II. Coll. 14. and Vol. III. Coll. 37.

For the improved management in caſes of plurality of children, ſee Dr. *Hamilton*'s Outlines of Midwifery, page 412.

ELEVENTH

Plate X.

Plate XI.



ELEVENTH TABLE

Exhibits another front view of the *gravid Uterus* in the beginning of labour; the anterior parts being removed, as in the former table; but in this the *Membranes*, not being broken, form a large bag containing the waters and *Fœtus*.

A. The ſubſtance of the *Uterus*.

B. B. C. C. D. D. The bones of the *Pelvis*.

E. The *Coccyx*.

F. The inferior part of the *Rectum*.

G. G. G. G. The *Vagina*.

H. H. The mouth of the *womb* largely ſtretched in time of a pain, with I. the *Membranes* and waters. This circumſtance makes it uſually certain that labour is begun, whereas from the degree of dilatation repreſented in the former table, there is little to be aſcertained, unleſs the pains are regular and ſtrong, the *Os Uteri* being often found more open ſeveral days, and even weeks, before labour commences.

K. The *Chorion*.

L. The ſame diſſected off at the inferior part of the *Uterus*, in order to ſhow the head of the *Fœtus* through the *Amnois*. *N. B.* This hint is taken from one of Dr. *Albinus*'s tables of the *gravid Uterus*.

M. The *Placenta*, the external convex surface of which, divided into a number of *Lobes*, is here represented, its concave internal parts being covered by the *Chorion*.

The *Placenta* has been found adhering to all the different parts of the internal surface of the *Uterus*, and sometimes even over the inside of the *Os Uteri*; this last manner of adhesion, however, always occasions floodings as soon as the same begins to dilate.

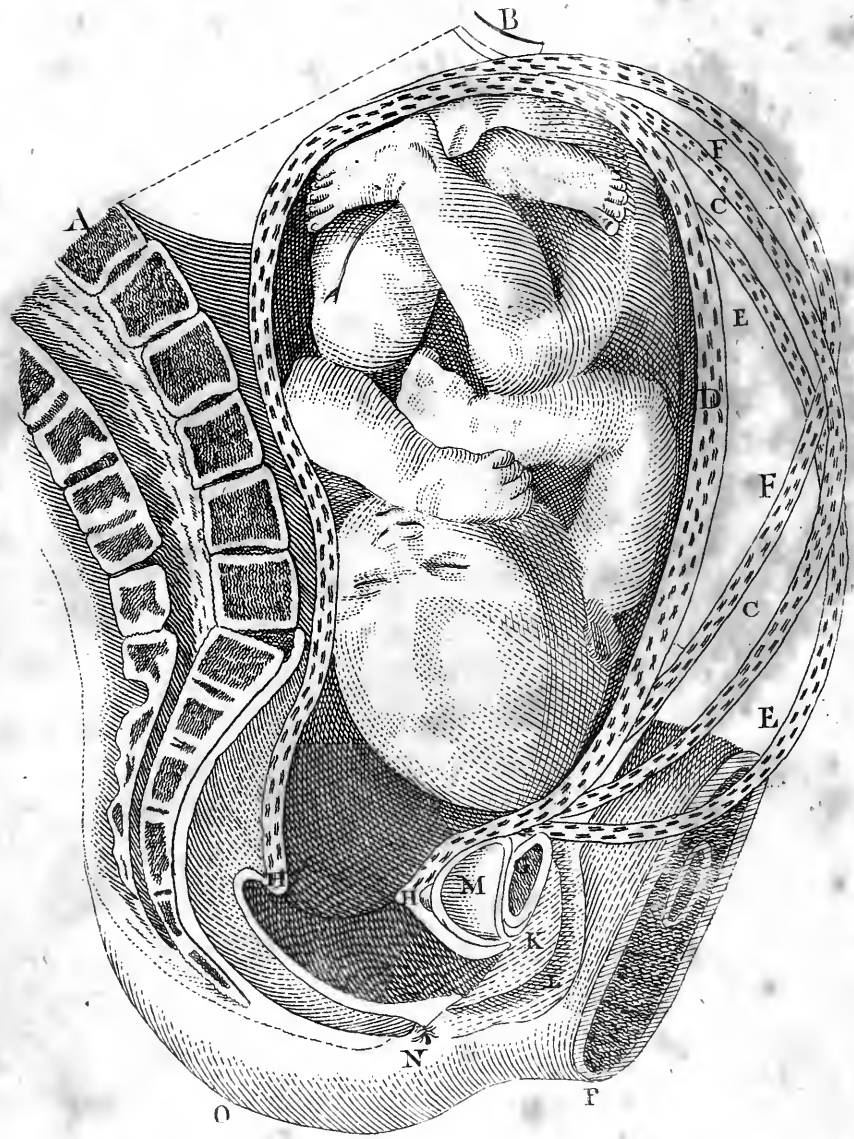
Tables VI, VIII, IX, X, show the internal surface of the *Placenta* towards the *Fœtus*, with the vessels composing its substance proceeding from the *Funis* which is inserted, in different *Placentas*, into all the different parts of the same, as well as in the middle.

The thirtieth and thirty third tables shew the insertion of the *Funis* into the *Abdomen* of the *Fœtus*.

With respect to the expulsion of the *Placenta*, when the *Membranes* break, the *Uterus* contracts as the waters are evacuated until it comes in contact with the body of the *Fœtus*: The same being delivered, the *Uterus* grows much thicker, and contracts closely to the *Placenta* and *Membranes*, by which means they are gradually separated, and forced into the *Vagina*. This shews that we ought to follow the method which nature teaches, waiting with patience, and allowing it to separate in a slow manner, which is much safer practice, especially when the patient is weak; as the discharge is neither so great or sudden as when the

Placenta

Plate XII.



Placenta is hurried down in the too common method. But then we muſt not run into the other extreme, but aſſiſt, when nature is not ſufficient to expel the ſame.

Vide Vol. I. Book III. Chap. 1. Sect. 4. Chap. 2. Sect. 2. 5. Vol. II. Coll. 14. 23. Alſo Dr. *Hamilton's* Outlines of Midwifery, p. 211. et ſeq.

TWELFTH TABLE

Shows, in a lateral view and longitudinal diviſion of the parts, the *gravid Uterus*, when labour is ſomewhat advanced.

A. The loweſt *Vertebra* of the back.

B. The *Scrobiculus Cordis*, the diſtance from which to the laſt mentioned *Vertebra* is here ſhown by dotted lines; as alſo part of the region below the *Diaphragm*.

C. C. The uſual thickneſs and figure of the *Uterus* when extended with the waters at the latter end of pregnancy.

D. The ſame contracted and grown thicker after the waters are evacuated.

E. E. The figure of the *Uterus* when *pendulous*. In this caſe, if the *Membranes* break when the patient is in an erect poſition, the head of the *Fœtus* runs a riſk of ſliding over and above the *Oſſa Pu-*

bis, whence the ſhoulders will be puſhed into the *Pelvis*.

F. F. The figure of the *Uterus* when ſtretched higher than uſual, which generally occaſions vomitings and difficulty of breathing. Conſult on this ſubject Mr. *Levret* ſur le mechaniſme de differentes groſſeſſes.

G. The *Os Pubis* of the left ſide.

H. H. The *Os Internum*.

I. The *Vagina*.

K. The left *Nympha*.

L. The *Labium Pudendi* of the ſame ſide.

M. The remaining portion of the bladder.

N. The *Anus*.

O. P. The left hip and thigh.

In this period of labour, the *Os Uteri* being more and more ſtretched by the *Membranes* puſhing down, and beginning to extend the *Vagina*, a great quantity of waters is forced down at the ſame time, and, if the *Membranes* break, is diſcharged; whence the *Uterus* contracts itſelf nearer to the body of the *Fœtus*, which is here repreſented in a natural poſition, with the *Vertex* reſting at the ſuperior part of the *Oſſa Pubis*, and the forehead towards the right *Os Iliûm*. As ſoon as the *Uterus* is in contact with the body of the *Fœtus*, the head of the ſame is forced backward towards the *Os Sacrum* from the line of the *Abdomen* B. G. into that of the *Pelvis*, *viz.* from the uppermoſt F. to near the end of the *Coccyx*, and is gradually puſhed lower, as in the following Table.

If

Plate XIII.

If the *Membranes* do not break immediately upon their being puſhed into the *Vagina*, they ſhould be allowed to protrude ſtill further in order to dilate the *Os Externum*.

Vide Vol. I. Book I. Chap. 2. Sect. 2. Chap. 3. Sect 3. Book III. Chap. 1. Sect. 1, 2. 4. Chap. 2. Sect. 3. Chap. 3. Sect. 4. No. 5. Vol. II. Coll. 10. No. 4. Caſe 3, 4. Coll. 14. Vol. III. Coll. 34. No. 2. Caſe 4.

THIRTEENTH TABLE,

In the ſame view and ſection of the parts as in Table VI, ſhows the natural poſition of the head of the *Fœtus* when ſunk down into the middle of the *Pelvis* after the *Os Internum* is fully opened, a large quantity of the waters being protruded with the *Membranes* through the *Os Externum*, but prevented from being all diſcharged, by the head's filling up the *Vagina*.

A. The *Uterus* a little contracted, and thicker, from ſome of the waters being ſunk down before the child, or diſcharged.

B. B. The ſuperior parts of the *Oſſa Ilium*.

C. The inferior part of the *Rectum*.

D. D. The *Vagina* largely ſtretched with the head of the *Fœtus*.

E. E. The

E. E. The *Os Internum* fully opened.

F. A portion of the *Placenta*.

G. G. The *Membranes*.

H. H. The *Ligamenta Lata*.

I. I. The *Ligamenta Rotunda*. Both thefe laſt ſtretched upwards with the *Uterus*.

The *Vertex* of the *Fœtus* being now down at the inferior part of the right *Os Iſchiûm*, and the wide part of the head at the narrow and inferior part of the *Pelvis*, the forehead by the force of the pains is gradually moved backwards, and as it advances lower, the *Vertex* and *Occiput* turn out below the *Pubes*, as in the next Table. Hence may be learnt of what confequence it is to know, that it is wider from ſide to ſide at the brim of the *Pelvis*, than from the back to the forepart, and that it is wider from the fore to the hind head of the child, than from ear to ear.

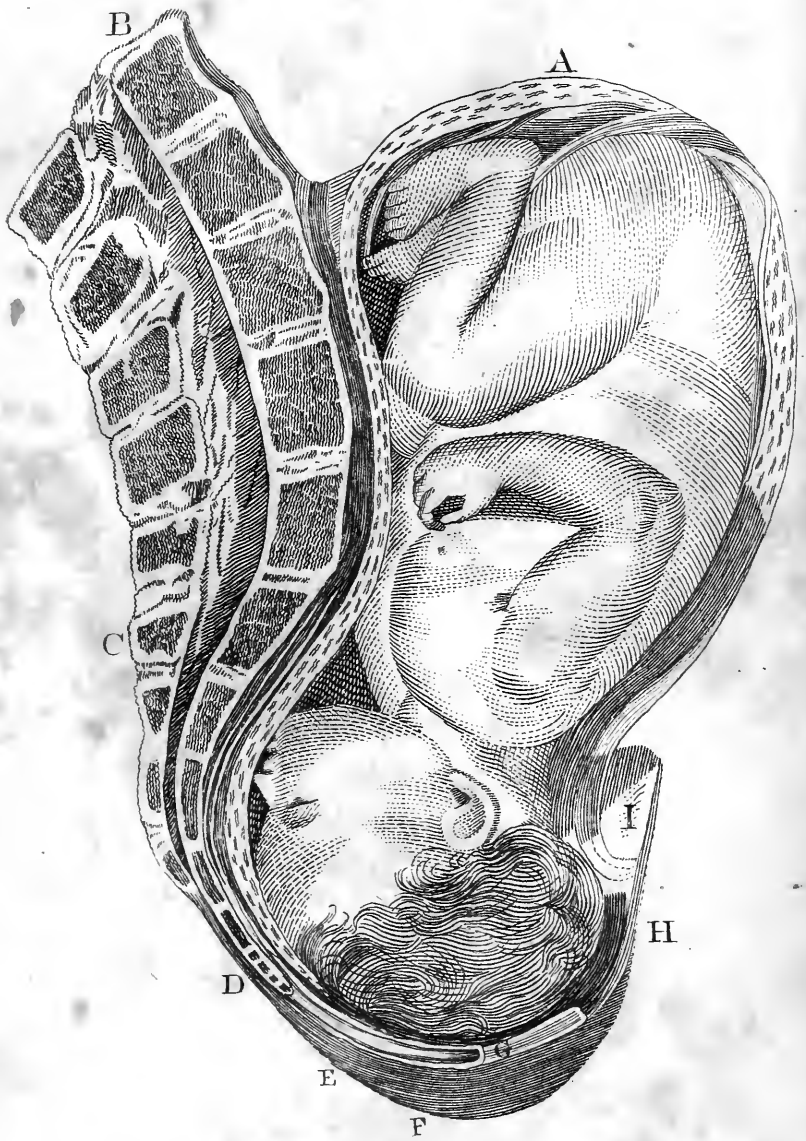
Vide Vol. I. Book I. Chap. 1. Sect. 3. 5. Alſo Book III. Chap. 3. Sect. 3, 4. No. 3. Vol. II. Coll. 14.

FOURTEENTH TABLE,

In a ſimilar view and ſection of the parts with Table XII, ſhows the forehead of the *Fœtus* turned [in its progreſſion downwards, from its poſi-

tion

Plate XIV.



tion in the former Table] backwards to the *Os Sacrum*, and the *Occiput* below the *Pubes*, by which means the narrow part of the head is to the narrow part of the *Pelvis*, that is, between the inferior parts of the *Offa Iſchiûm*. Hence it may be obſerved, that though the diſtance between the inferior parts of the laſt mentioned bones is much the ſame, as between the *Coccyx* and *Pubes*, yet as the cavity of the *Pelvis* is much ſhallower at the anterior than lateral part, the *Occiput* of the *Fœtus*, when come down to the inferior part of either *Os Iſchiûm*, turns out below the *Pubes*; this anſwers the ſame end as if the *Pelvis* itſelf had been wider from the poſterior part than from ſide to ſide; the head likewiſe enlarging the cavity by forcing back the *Coccyx*, and puſhing out the external parts in form of a large tumor, as is more fully deſcribed in the following Table.

Vide Vol. I, II, as referred to in the preceding Table.

A. The *Uterus* contracted cloſely to the *Fœtus* after the waters are evacuated.

B. C. D. The *Vertebræ* of the loins, *Os Sacrum* and *Coccyx*.

E. The *Anus*.

F. The left hip.

G. The *Perinæum*.

H. The *Os Externum* beginning to dilate.

I. The *Os Pubis* of the left ſide.

K. The remaining portion of the bladder.

L. The poſterior part of the *Os Uteri*.

N. B.

N. B. Although for the moſt part, at or before this period, the waters are evacuated, yet it often happens, that more or leſs will be retained, and not all diſcharged, until after the delivery of the child; occaſioned from the preſenting part of the *Fœtus* coming into cloſe contact with the lower or under part of the *Uterus*, *Vagina*, or *Os Externum*, immediately, or ſoon after the *Membranes* break.

FIFTEENTH TABLE

Is intended principally to ſhow in what manner the *Perinæum* and external parts are ſtretched by the head of the *Fœtus*, in a firſt *pregnancy*, towards the end of labour.

A. The *Abdomen*.

B. The *Labia Pudendi*.

C. The *Clitoris*, and its *Præputium*.

D. The hairy ſcalp of the *Fœtus* ſwelled at the *Vertex*, in a laborious caſe, and protruded to the *Os Externum*.

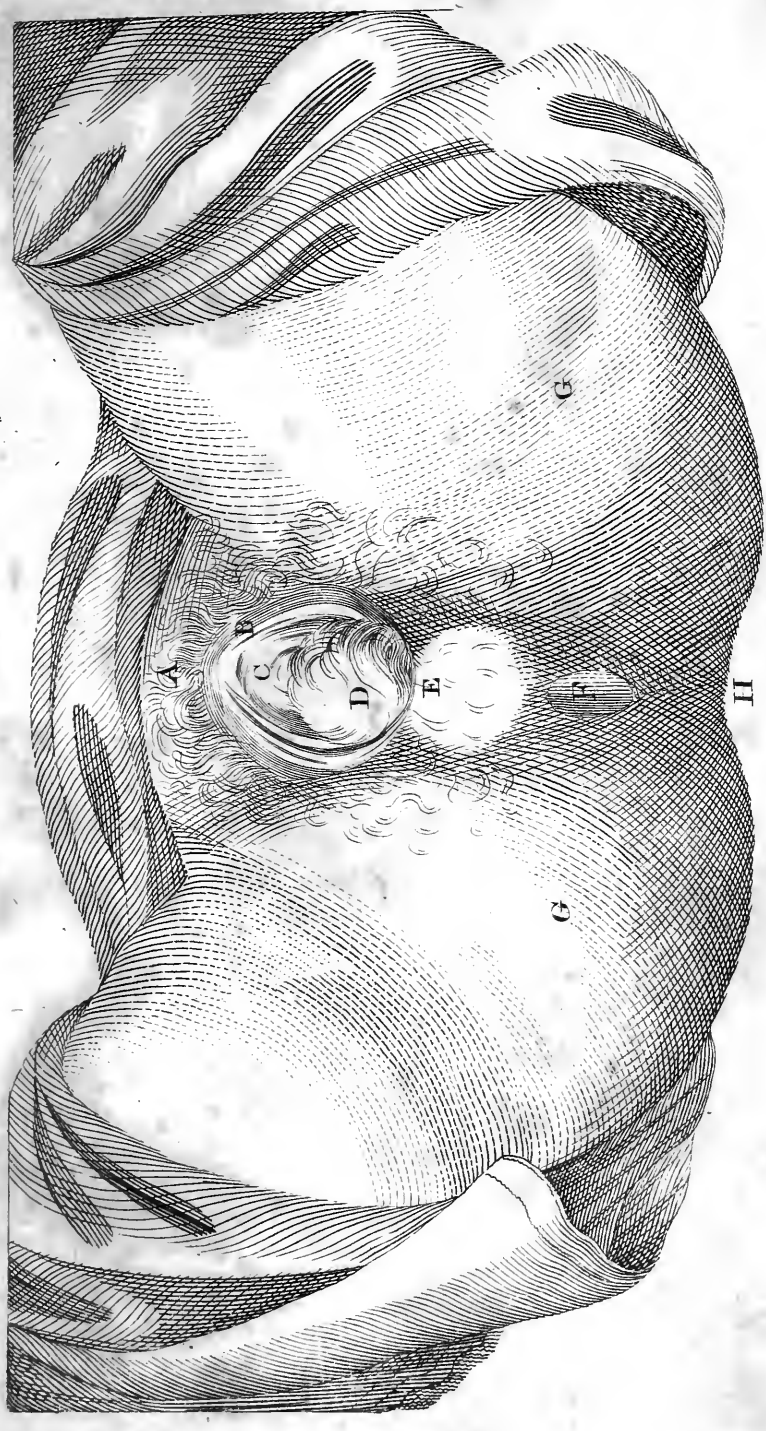
E. F. The *Perinæum* and *Anus* puſhed out by the head of the *Fœtus* in form of a large *Tumor*.

G. G. The parts that cover the *Tuberoſities* of the *Oſſa Iſchiûm*.

H. The part that covers the *Os Coccygis*.

The

Plate XV.



The *Perinæum* in this figure is ſtretched two inches, or *nearly* double its length in the natural ſtate; but when the *Os Externum* is ſo much dilated by the head of the *Fœtus* as to allow the delivery of the ſame, the *Perinæum* is generally ſtretched to the length of three, and ſometimes four inches.

The *Anus* is likewiſe lengthened an inch, the parts alſo between it and the *Coccyx* being much diſtended. All this ought to caution the young practitioner never to precipitate the delivery at this time, but to wait, and allow the parts to dilate in a ſlow manner, as from the violence of the labour pains, the ſudden delivery of the head of the *Fœtus* might endanger the laceration of the parts. The palm of the operator's hand ought therefore to be preſſed againſt the *Perinæum*, that the head may be prevented from paſſing until the *Os Externum* is ſufficiently dilated, to allow its delivery without tearing the *Frænum*, and parts betwixt that and the *Anus*, which are at this time very thin.

Vide Vol. I. Book III. Chap. 2. Sect. 2. Chap. 4. Sect. 4. No. 1. and Book IV. Chap. 1. Sect. 1. Alſo, Vol. II. Coll. 14. 24. Vol. III. Coll. 40. Alſo, directions for the management of natural labour in Dr. Hamilton's Outlines of Midwifery, page 207, and ſeq. and the Judicious Obſervations and directions of Charles White, Eſq; F. R. S. Mancheſter, third edition of his Treatiſe on the Management of Pregnant and Lying in Women, Chap. 5. page 82 to 113.

SIXTEENTH

SIXTEENTH TABLE,

And the three following, ſhow in what manner the head of the *Fœtus* is helped along with the forceps, as artificial hands, when it is neceſſary to aſſiſt with the ſame for the ſafety of either mother or child. In this Table the head is repreſented as forced down into the *Pelvis* by the labour pains, from its former poſition in Table XII.

A. A. B. C. The *Vertebræ* of the loins, *Os Sacrum* and *Coccyx*.

D. The *Os Pubis* of the left ſide.

E. The remaining part of the bladder.

F. F. The *Inteſtinum Rectum*.

G. G. G. The *Uterus*.

H. The *Mons Veneris*.

I. The *Clitoris* with the left *Nympha*.

X. The *Corpus Cavernoſum Clitoridis*.

V. The *Meatus Urinarius*.

K. The left *Labium Pudendi*.

L. The *Anus*.

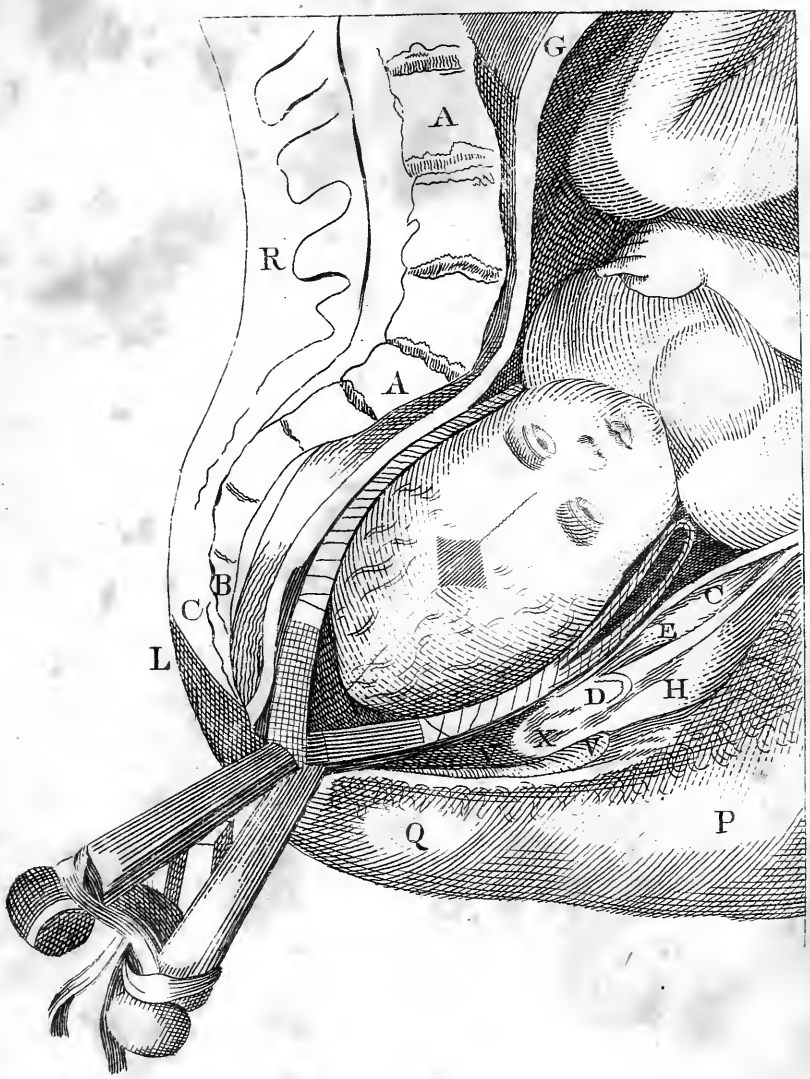
N. The *Perinæum*.

Q. P. The left hip and thigh.

R. The ſkin and muſcular part of the loins.

The

Plate XVI.



The patient in this caſe may be, as in this Table, on her ſide, with her breech a little over the ſide or foot of the bed, her knees being likewiſe pulled up to her belly, and a pillow placed between them, care being taken at the ſame time that the parts are by a proper covering defended from the external air. If the hairy ſcalp of the *Fœtus* is ſo ſwelled that the ſituation of the head cannot be diſtinguiſhed by the *Sutures* as in Table XXI, or if by introducing a finger between the head of the child and the *Pubes*, or *Groin*, the ear or back part of the neck cannot be felt, the *Os Externum* muſt be gradually dilated in the time of the pains with the operator's fingers (previouſly lubricated with hog's lard) until the whole hand can be introduced into the *Vagina*, and ſlipped up in a flattiſh form between the poſterior part of the *Pelvis* and child's head. This laſt is then to be raiſed up as high as is poſſible, to allow room for the fingers to reach the ear and poſterior part of the neck. When the poſition of the head is known, the operator muſt withdraw his hand, and wait to ſee if the ſtretching of the parts will renew or increaſe the labour pains, and allow more ſpace for the advancement of the head in the *Pelvis*. If this, however, proves of no effect, the fingers are again to be introduced as before, and one of the blades of the forceps (lubricated with lard) is then to be applied along the inſide of the hand or fingers, and left ear of the child, as repreſented in the table. But if the *Pelvis* is diſtorted, and projects forward

ward at the ſuperior part of the *Os Sacrum*, and the forehead therefore cannot be moved a little backwards, in order to turn the ear from that part of the *Pelvis* which prevents the end of the forceps to paſs the ſame; in that caſe, I ſay, the blade muſt be introduced along the poſterior part of the ear at the ſide of the diſtorted bone. The hand that was introduced is then to be withdrawn, and the handle of the introduced blade held with it as far back as the *Perinæum* will allow, whilſt the fingers of the other hand are introduced to the *Os Uteri*, at the *Pubes* or right *Groin*, and the other blade placed exactly oppoſite to the former. This done, the handles being taken hold of and joined together, the head is to be pulled lower and lower, every pain, until the *Vertex*, as in this table, is brought down to the inferior part of the left *Iſchiûm*, or below the ſame. The wide part of the head being now advanced to the narrow part of the *Pelvis* betwixt the *Tuberoſities* of the *Oſſa Iſchiûm*, is to be turned from the left *Iſchiûm* out below the *Pubes*, and the forehead backwards to the concave part of the *Os Sacrum* and *Coccyx*, as in Table XVII, and afterwards the head brought along and delivered, as in Table XVIII, and XIX. But if it is found that the delivery will require a conſiderable degree of force from the head's being large, or the *Pelvis* narrow, the handles of the forceps are to be tied together with a fillet, as repreſented in this Table, to prevent their poſition being changed, whilſt the wom-

an

Plate XVII.

an is turned on her back as in Table XXIV, which is then more convenient for delivering the head than when lying on the ſide.

N. B. When the head is wedged in the *Pelvis*, and the baſis not yet protruded below the brim, the forceps can neither be employed with advantage nor ſafety; and to attempt the mechanical turns recommended here would be difficult and hazardous.

This Table ſhows that the handles of the forceps ought to be held as far back as the *Os Externum* will allow, that the blades may be in an imaginary line between that and the middle ſpace between the *Umbilicus* and the *Scrobiculus Cordis*. When the forceps are applied along the ears and ſides of the head, they are nearer to one another, have a better hold, and mark leſs than when over the *Occipital* and *Frontal* bones.

Vide Vol. I. Book. III. Chap. 3. from Sect. 1. to 6. and Vol. II. Coll. 25, 26, 27, and 29.

SEVENTEENTH TABLE,

In the ſame view with the former, repreſents, in outlines, the head of the *Fœtus* brought lower with the forceps, and turned from the poſition in the former Table, in imitation of the natural progreſſion by the labour pains, which may

likewiſe be ſuppoſed to have made this turn, before it was neceſſary to aſſiſt with the forceps, this neceſſity at laſt ariſing from many of the cauſes mentioned in Vol. I.

In this view the poſition of the forceps, along the ears and narrow part of the head, is more particularly expreſſed. It appears alſo that when the *Vertex* is turned from the left *Os Iſchiûm*, where it was cloſely confined, it is diſengaged by coming out below the *Pubes*, and the forehead that was preſſed againſt the middle of the right *Os Iſchiûm* is turned into the concavity of the *Os Sacrum* and *Coccyx*. By this means the narrow part of the head is now between the *Oſſa Iſchiûm*, or narrow part of the *Pelvis*, and as the *Occiput* comes out below the *Pubes*, the head paſſes ſtill eaſier along. When the head is advanced ſo low in the *Pelvis*, if the poſition cannot be diſtinguiſhed by the ſutures, it may for the moſt part be known by feeling for the back part of the neck of the *Fœtus*, with a finger introduced betwixt the *Occiput* and *Pubes*, or towards one of the *Groins*. If the head is ſqueezed into a longiſh form, as in Table XXI, and has been detained many hours in this poſition, the pains not being ſufficient to complete the delivery; the aſſiſtance of the forceps muſt be taken to ſave the child, though the woman may be in no danger.

The aſſiſtance of the forceps muſt be taken to ſave the child, though the woman be in no danger. This may require a little explanation. The exact di-

menſions

menſions of a child's head cannot eaſily be aſcertained before delivery; nor can it be known *how long* a labour may be protracted, without any material injury to the mother. The changes the head of the *Fœtus* ſuffers both in its figure and diminution of bulk, by compreſſion, render it capable of paſſing in ſome caſes where we would little expect it. On the contrary, when the head is but little advanced, and wedged in the *Pelvis*, the forceps are applied under obvious diſadvantages; ſince it is well known to practitioners, that women ſuffer the *natural bruiſes* with more ſafety than thoſe occaſioned by the beſt conſtructed modern inſtruments, in the hands of the moſt ſkilful practitioners. The forceps, therefore, in general, ſhould not be uſed, eſpecially in the early part of a man's practice, except only on the moſt *urgent occaſions*. And if the head is detained at the brim of the *Pelvis*, as in the former Table, the caſe is *unfavourable* for the forceps.

See this important precaution further enforced, page 37, line 4.

This Table alſo ſhows that the handles of the forceps are ſtill to be kept back to the *Perinæum*, and when in this poſition are in a line with the upper part of the *Sacrum*, and if held more backwards, when the head is a little higher, would be in a line with the *Scrobiculus Cordis*. If the forceps are applied when the head is in this poſition, they are more eaſily introduced when the patient is in a ſupine poſition, as in Table XXIV.

Neither is it neceſſary to tie the handles, which is only done to prevent their alteration when turning the woman from her ſide to her back.

As I have had ſeveral caſes where a longer ſort of forceps that are curved upwards are of great uſe to help along the head, when the body is delivered firſt, as in Table XXXV, the ſame are repreſented here by dotted lines. They may be uſed in laborious caſes as well as the others, but are not managed with the ſame eaſe.

Moſt of the parts of this Table being marked with the ſame letters as the former, the deſcriptions there given will anſwer in this, except the following.

L. M. The *Anus.*

M. N. The *Perinæum.*

O. The common *Integuments* of the *Abdomen.*

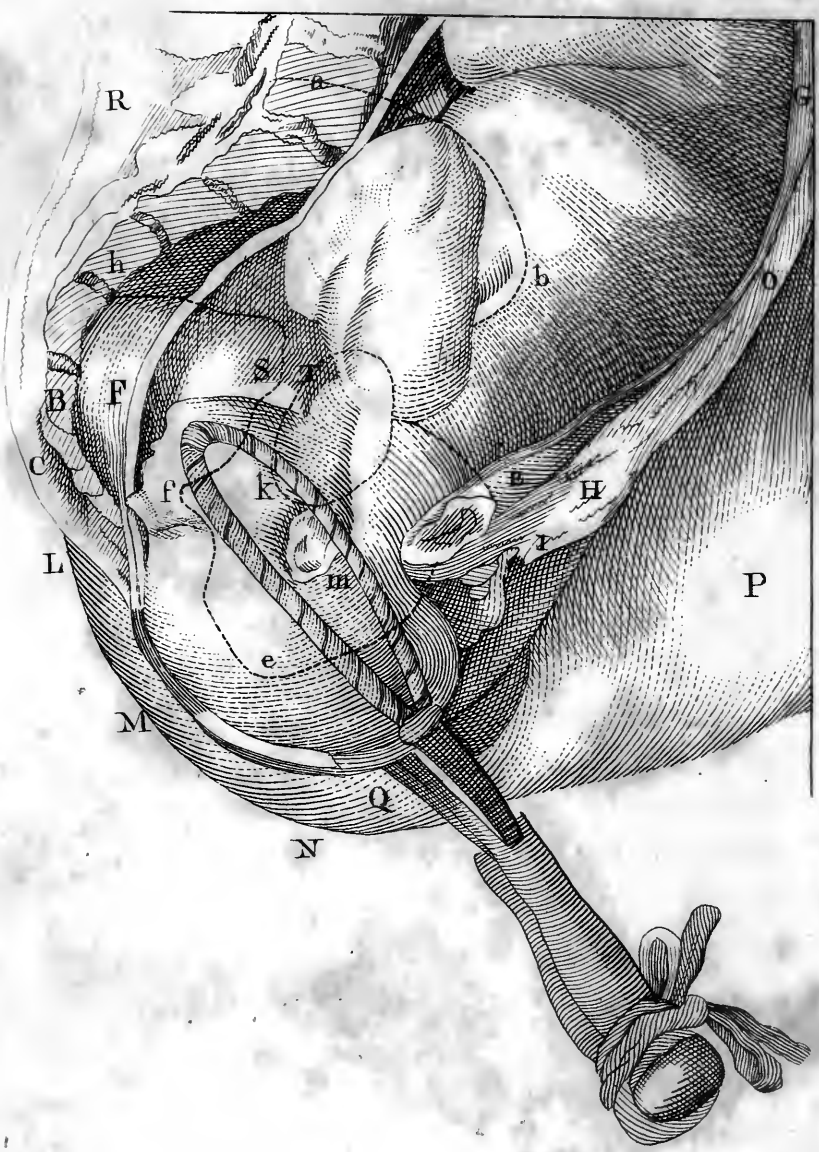
R. The ſhort forceps.

S. The long curved forceps, the firſt of theſe is eleven inches long, and the laſt twelve inches and a half, which I have after ſeveral alterations found ſufficient, but this need not confine others who may chooſe to alter them from this ſtandard.

Vide Table XXXVII.

EIGHTEENTH

Plate XVIII.



EIGHTEENTH TABLE,

In the ſame View and Section of the parts, ſhows the head of the *Fœtus* in the ſame poſition, but brought lower down with the forceps than in the former Table; for in this the *Os Externum* is more open, the *Occiput* comes lower down from below the *Pubes*, and the forehead paſt the *Coccyx*, by which both the *Anus* and *Perinæum* are ſtretched out in form of a large tumor, as in Table XV.

When the head is ſo far advanced, the operator ought to extract with great caution, leſt the parts ſhould be torn. If the labour pains are ſufficient, the forehead may be kept down, and helped along in a ſlow manner by preſſing againſt it with the fingers on the external parts below the *Coccyx*: At the ſame time the forceps being taken off, the head may be allowed to ſtretch the *Os Externum* more and more in a gradual manner, from the force of the labour pains, as well as aſſiſtance of the fingers. But if the former are weak and inſufficient, the aſſiſtance of the forceps muſt be continued. *Vide* the deſcription of the parts in Table XVI. S. T. in this repreſent the left ſide of the *Os Uteri*. The dotted lines demonſtrate the ſituation of the bones of the *Pelvis*

on the right ſide, and may ſerve as an example for all the lateral views of the ſame.

a. b. c. h. The outlines of the *Os Iliûm*.
D. e. f. The ſame of the *Pubis* and *Iſchiûm*.
i. i. k. The *Acetabulum*. And
m. n. The *Foramen Magnum*.

Vide Vol. I. Book III. Chap. 5. Sect. 3. Vol. II. Coll. 25.

NINETEENTH TABLE,

In the ſame view and Section of the *Pelvis*, is intended by out lines to ſhow, that as the external parts are ſtretched, and the *Os Externum* is dilated, the *Occiput* of the *Fœtus* riſes up with a ſemicircular turn from out below the *Pubes*, the under part of which bones are as an axis, or fulcrum, on which the back part of the neck turns, whilſt at the ſame time the forehead and face in their turn upwards, diſtend largely the parts between the *Coccyx*, and *Os Externum*. This is the method obſerved by nature in ſtretching theſe parts in labour, and as nature is always to be imitated, the ſame method ought to be followed, when it is neceſſary to help along the head with the forceps.

Vide

Plate XIX.

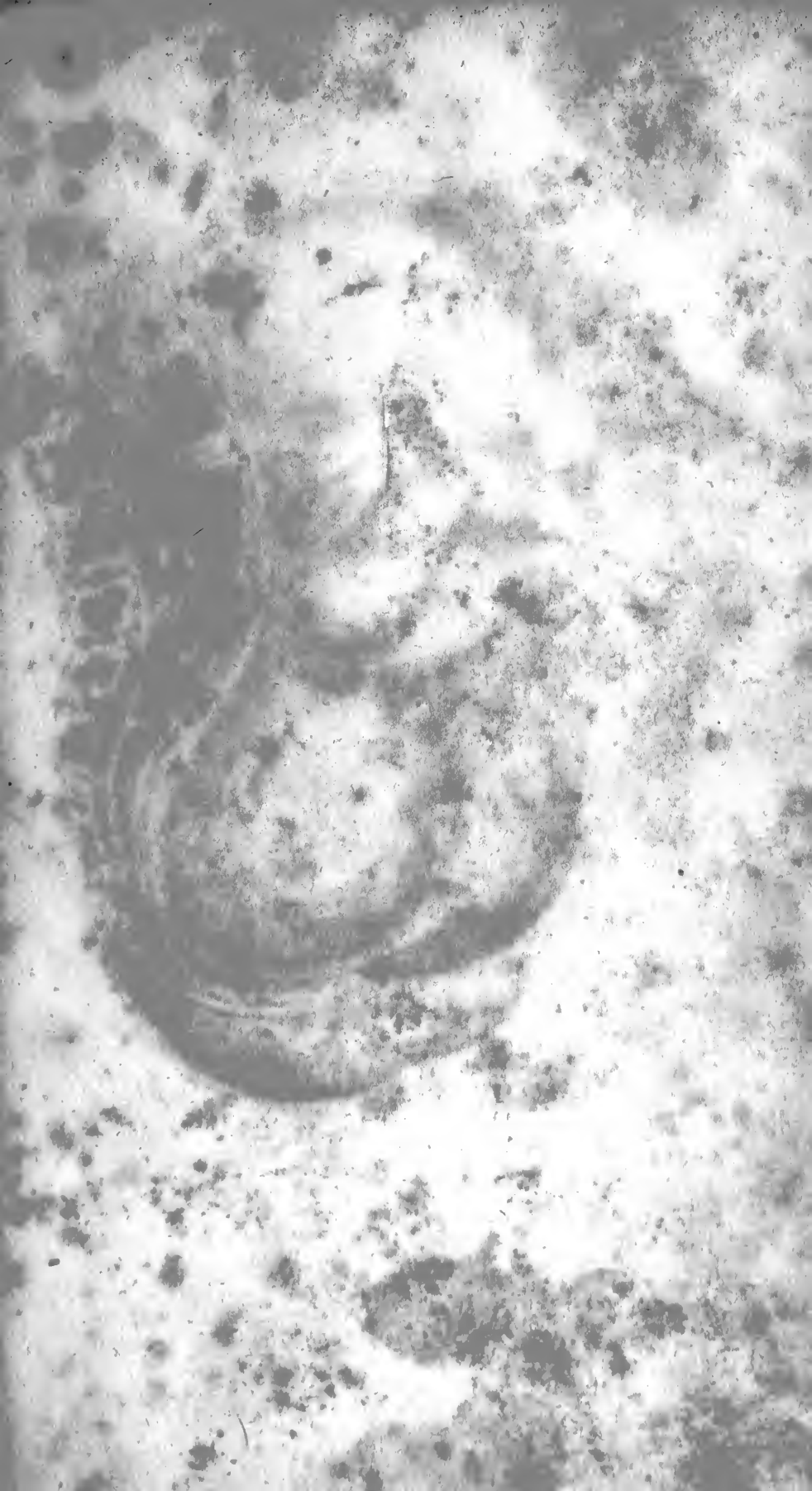
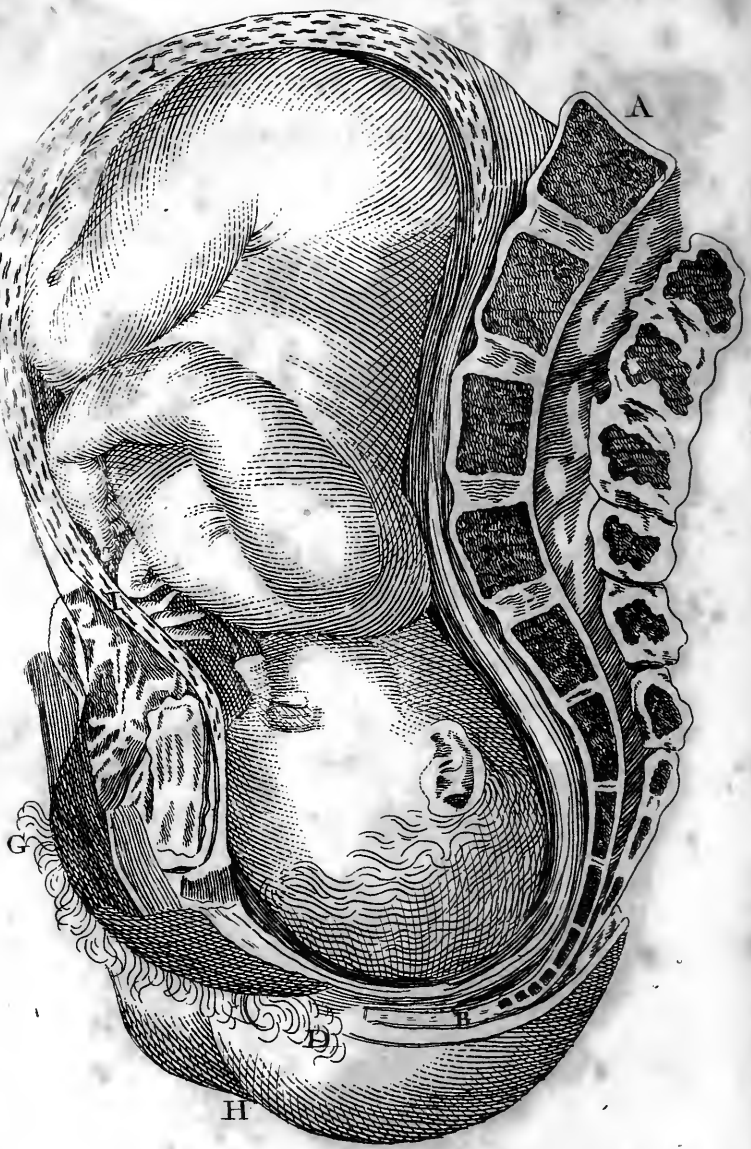


Plate XX.



Vide the three former Tables for the deſcriptions and references.

TWENTIETH TABLE,

In the ſame Section of the parts, but with a view of the right ſide, ſhows the head of the *Fœtus* in the contrary poſition to the three laſt figures, the *Vertex* being here in the concavity of the *Sacrum*, and the forehead turned to the *Pubes*.

A. B. The *Vertebræ* of the loins, *Os Sacrum* and *Coccyx*.

C. The *Os Pubis* of the right ſide.

D. The *Anus*.

E. The *Os Externum* not yet begun to ſtretch.

F. The *Nympha*.

G. The *Labium Pudendi* of the right ſide.

H. The hip and thigh.

I. I. The *Uterus* contracted, the waters being all diſcharged.

When the head is ſmall, and the *Pelvis* large, the *Parietal* bones and the forehead will, in this caſe, as they are forced downwards by the labour pains, gradually dilate the *Os Externum*, and ſtretch the parts between that and the *Coccyx* in form of a large tumor, as in Table XV, until the

face comes down below the *Pubes*, when the head will be ſafely delivered. But if the ſame be large, and the *Pelvis* narrow, the difficulty will be greater, and the child in danger; as in the following Table.

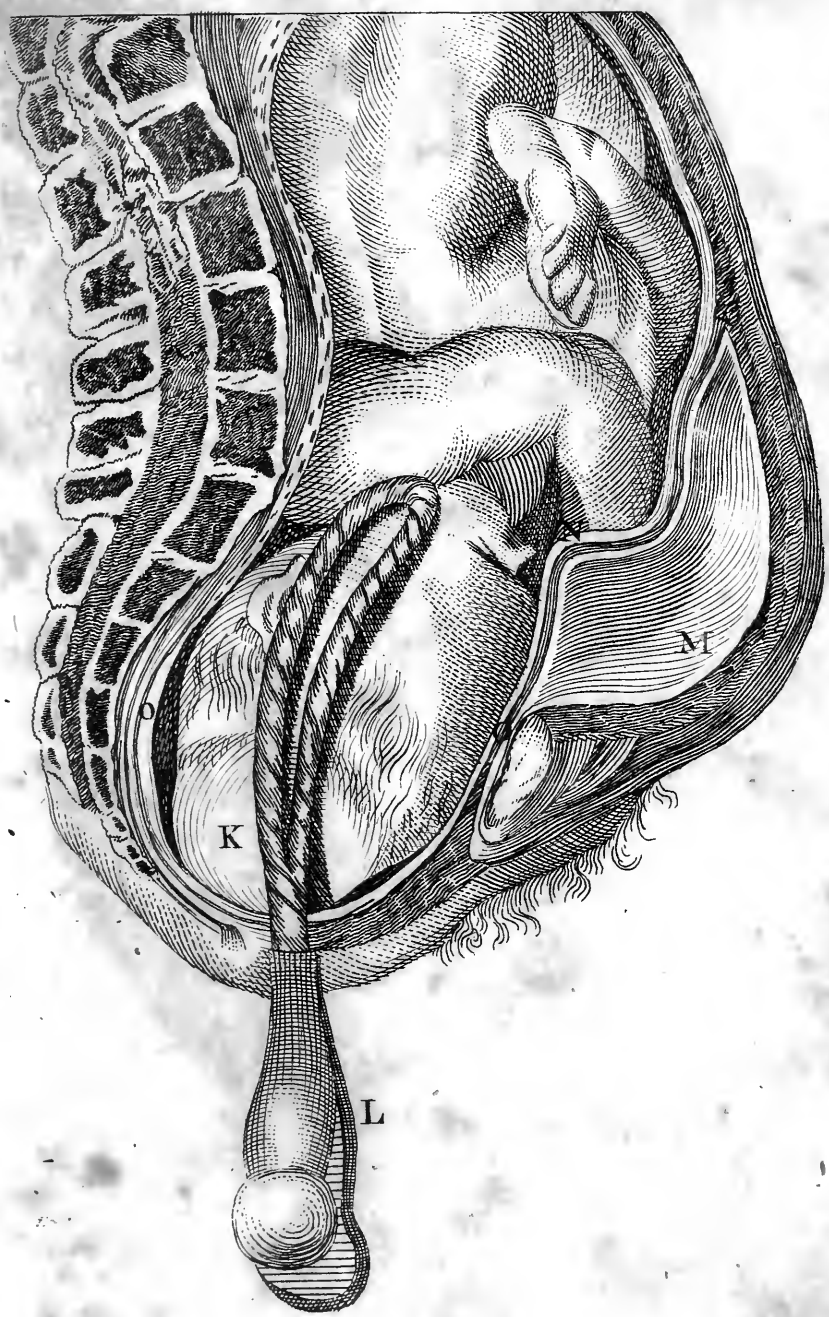
Vide Vol. I. Book III. Chap. 3. Sect. 4. No. 3. Vol. II. Coll. 16. No. 2.

TWENTY FIRST TABLE

Shows the head of the *Fœtus* in the ſame poſition as in the former Table, but being much larger, it is by ſtrong labour pains ſqueezed into a longiſh form with a tumor on the *Vertex*, from the long compreſſion of the head in the *Pelvis*. If the child cannot be delivered with the labour pains, or turned and brought footling*, the forceps are to be applied on the head as deſcribed in this figure, and brought along as it preſents; but if that cannot be done without running the riſque of tearing the *Perinæum*, and even the *Vagina* and *Rectum* of the woman, the forehead muſt be turned backwards to the *Sacrum*. To do this more effectually, the operator

* *Turning*, when the head is ſo far advanced in the *Pelvis*, and of a more than uſual ſize, is a *dreadful* practice, and ſhould never be attempted.

Plate XXI.



operator muſt graſp firmly with both hands the handles of the forceps, and at the ſame time puſhing upwards, raiſe the head as high as poſſible, in order to turn the forehead to one ſide, by which it is brought into the natural poſition; this done, the head may be brought down and delivered as in Table XVI. &c.

Vide Vol. I. Book III. Chap. 3. Sect. 4. No. 2. and Vol. II. Coll. 28. Alſo the former Table for the deſcription of the parts, except

K. The tumor on the *Vertex*. The ſame compreſſion and elongation of the head, as well as the tumor on the *Vertex*, may be ſuppoſed to happen in a greater or leſs degree in the XVI, XVII, XVIII, XIX Tables, as well as in this, where the difficulty proceeds from the head being large, or the *Pelvis* narrow. *Vide* Tables XXVII, and XXVIII.

L. The forceps. Sometimes the forehead may be moved to the natural poſition by the aſſiſtance of the fingers, or only one blade of the forceps.

N. B. Though the uſe of a ſingle blade of the forceps, or the ſimple lever, is ſtill retained in practice, and in a few particular caſes may be employed in preference to the double lever, the application is more difficult, more ſlight and profeſſional judgment are neceſſary in the management, and the two bladed forceps can be employed with more ſafety and equal ſucceſs, in general, by young practitioners. The forceps

may

may either be the ſtraight kind, or ſuch as are curved to one ſide, when it is neceſſary to uſe one or both blades.

M. The *Veſica Urinaria* much diſtended with a large quantity of *Urine*, from the long preſſure of the head againſt the *Urethra*, which ſhows that the *Urine* ought to be drawn off with a *Catheter*, in ſuch extraordinary caſes, before you apply the forceps, or in preternatural caſes, where the child is brought footling.

N. The under part of the *Uterus*.

O. O. The *Os Uteri*.

TWENTY SECOND TABLE

Shows, in a front view of the parts, the forehead of the *Fœtus* preſenting at the brim of the *Pelvis*, the face being turned to one ſide, the *Fontanelle* to the other, and the feet and breech ſtretched towards the *Fundus Uteri*.

A. A. The ſuperior part of the *Oſſa Ilium*.

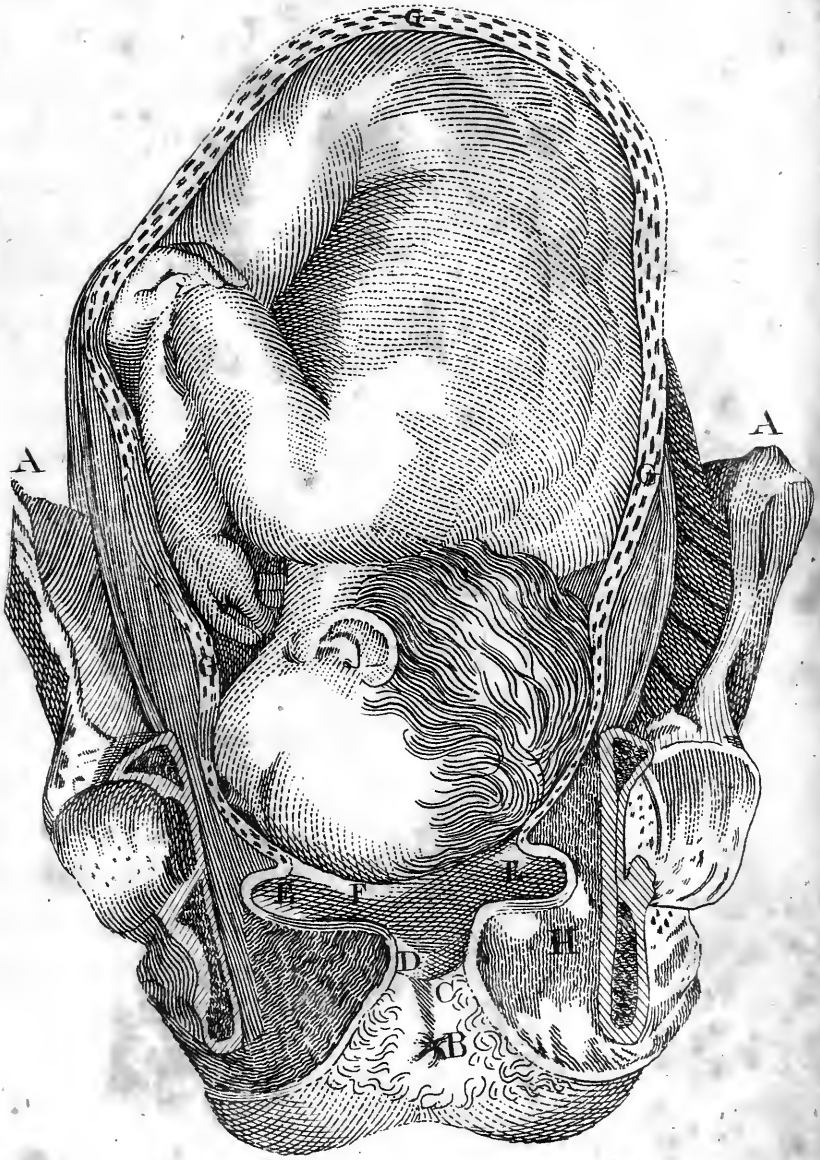
B. The *Anus*.

C. The *Perinæum*.

D. The *Os Externum* ; the thickneſs of the poſterior part before it is ſtretched with the head of the child.

E. E. E. The

Plate XXII.



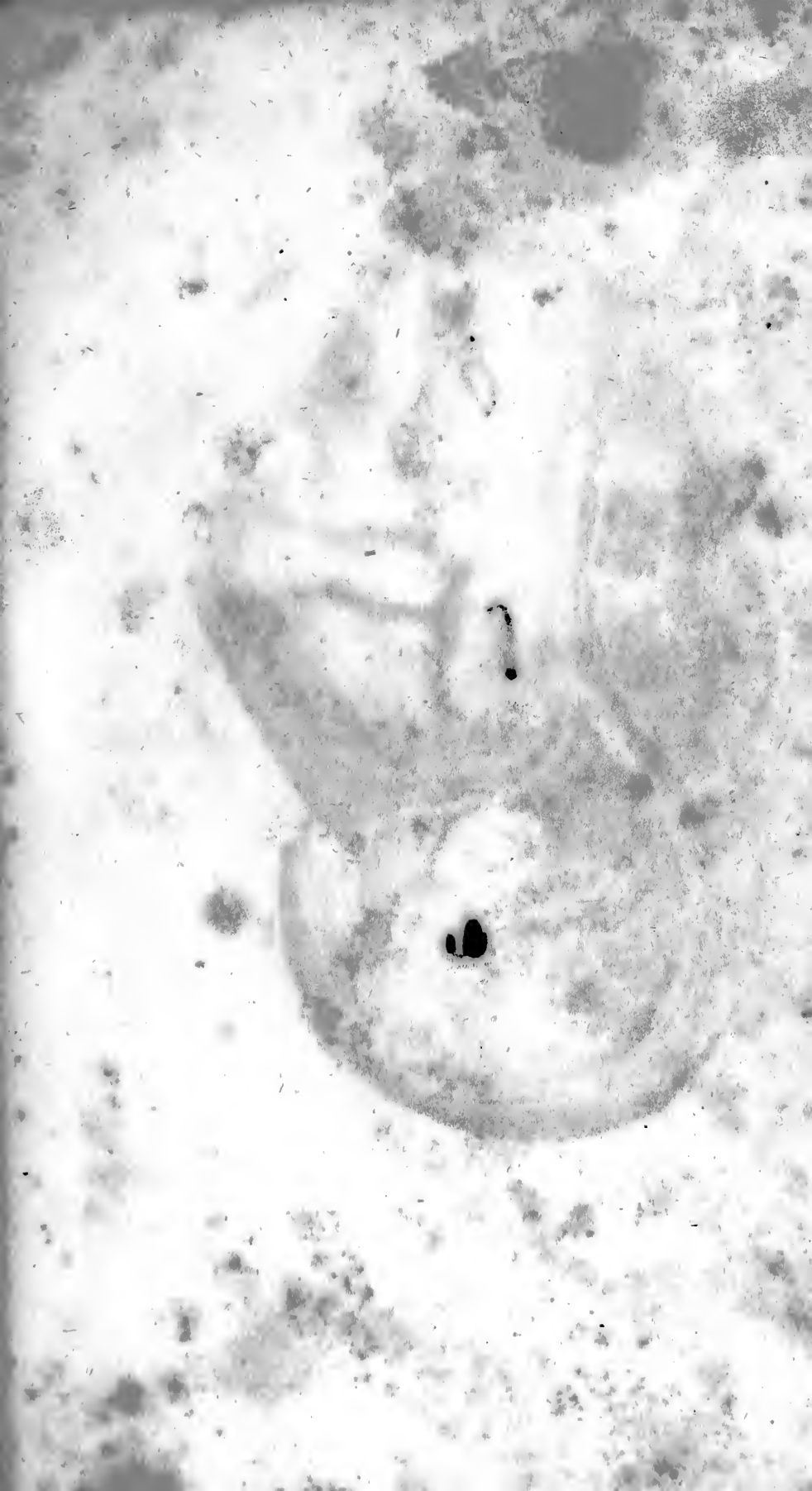
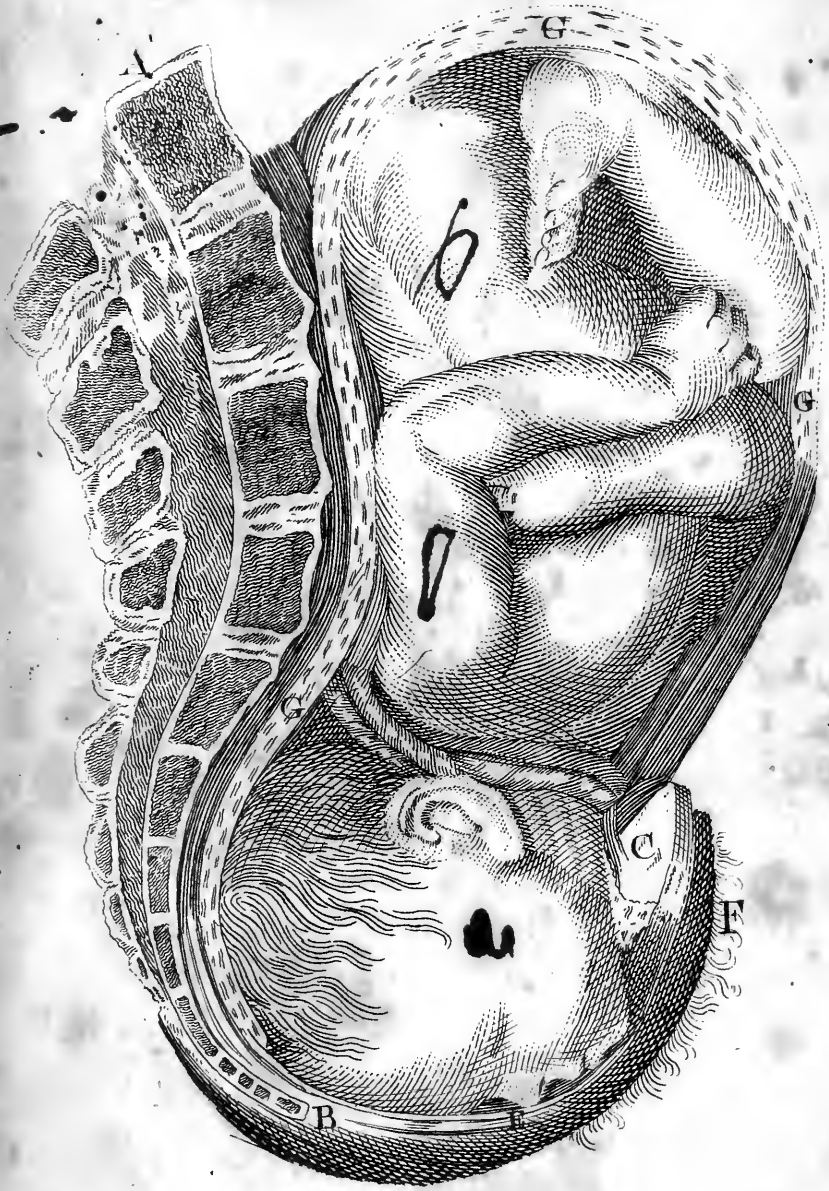


Plate XXIII.



E. E. E. The *Vagina.*
F. The *Os Uteri* not yet fully dilated.
G. G. G. The *Uterus.*
H. The *Membrana Adipoſa.*

If the face is not forced down, the head will ſometimes come along in this manner; in which caſe the *Vertex* will be flattened, and the forehead raiſed in a conical form; and when the head comes down to the lower part of the *Pelvis*, the face or *Occiput* will be turned from the ſide, and come out below the *Pubes*. But if the head is large, and cannot be delivered by the pains, or if the wrong poſition cannot be altered, the child muſt be delivered with the forceps. If they ſhould fail, recourſe muſt be had to *Embryulcia*.

Vide Vol. I. Book III. Chap. 2. Sect. 3. Chap. 3. Sect. 4. No. 3. Vol. II. Coll. 16. No. 4. Coll. 28.

TWENTY THIRD TABLE

Shows, in a lateral view, the face of the child preſenting, and forced down into the lower part of the *Pelvis*, the chin being below the *Pubes*, and the *Vertex* in the concavity of the *Os Sacrum*; the waters likewiſe being all diſcharged, the *Uterus* appears cloſely joined to the

the body of the child, round the neck of which is one circumvolution of the *Funis*.

A. B. The *Vertebræ* of the loins, *Os Sacrum*, and *Coccyx*.

C. The *Os Pubis* of the left ſide.

D. The inferior part of the *Rectum*.

E. The *Perinæum*.

F. The left *Labium Pudendi*.

G. G. G. The *Uterus*.

When the *Pelvis* is large, the head, if ſmall, will come along in this poſition, and the child be ſaved: For, as the head advances lower, the face and forehead will ſtretch the parts between the *Frænum Labiorum* and *Coccyx* in form of a large tumor. As the *Os Externum* likewiſe is dilated, the face will be forced through it; the under part of the chin will riſe upwards over the anterior part of the *Pubes*; and the forehead, *Vertex*, and *Occiput*, turn up from the parts below. If the head, however, is large, it will be detained either when higher or in this poſition. In this caſe, if the poſition cannot be altered to the natural, the child ought to be turned, and delivered footling.

See *N. B.* at the end of explanation of Table XXV. page 51.

If the *Pelvis*, however, is narrow, and the waters not all gone, the *Vertex* ſhould, if poſſible, be brought to preſent; but if the *Uterus* is ſo

cloſely

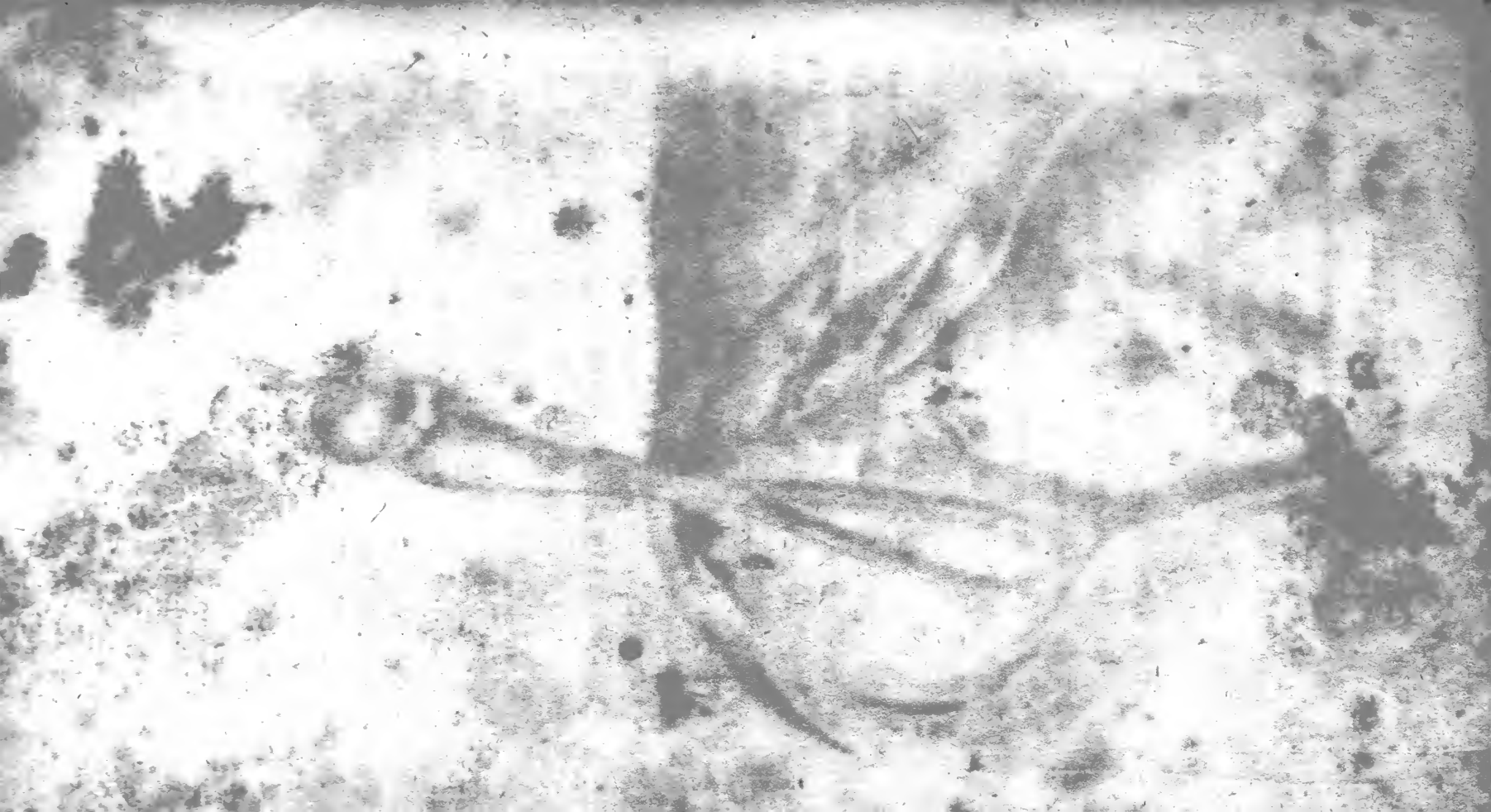
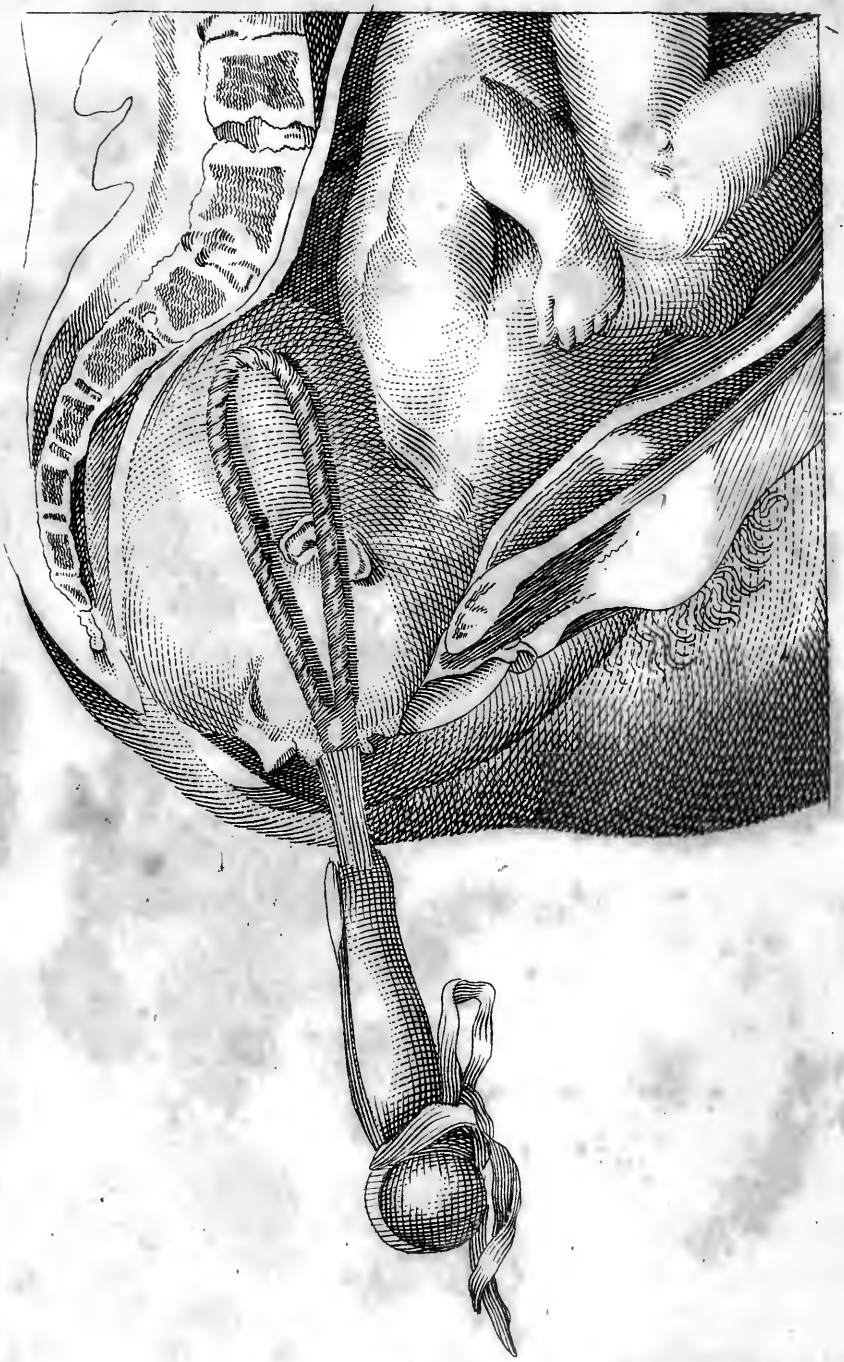


Plate XXIV.



cloſely contracted that this cannot be effected, on account of the ſtrong preſſure of the ſame, and ſlipperineſs of the child's head, in this caſe the method directed in the following table is to be taken.

TWENTY FOURTH TABLE

Repreſents, in the lateral view, the head of the *Fœtus* in the ſame poſition as in the former Table; but the delivery is ſuppoſed to be retarded from the largeneſs of the head, or a narrow *Pelvis*.

In this caſe, if the head cannot be raiſed, and puſhed up into the *Uterus*, it ought to be delivered with the forceps, in order to ſave the child. This poſition of the chin to the *Pubes* is one of the ſafeſt caſes where the face preſents, and is moſt eaſily delivered with the forceps; the manner of introducing of which over the ears is ſhown in this Table. The patient muſt lie on her back, with her breech a little over the bed, her legs and thighs being ſupported by an aſſiſtant ſitting on each ſide. After the parts have been ſlowly dilated with the hand of the operator, and the forceps introduced, and properly fixed along the ears of the child, the head is to be brought down

by

by degrees, that the parts below the *Os Externum* may be gradually ſtretched: The chin then is to be raiſed up over the *Pubes*, whilſt the forehead, *Fontanelle*, and *Occiput*, are brought out ſlowly from the *Perinæum* and *Fundament* to prevent the ſame from being hurt or lacerated. But if the *Fœtus* cannot be extracted with the forceps, the delivery muſt be left to the labour pains, as long as the patient is in no danger; but if the danger is apparent, the head muſt be delivered with the curved crotchets. *Vide* Table XXXIX.

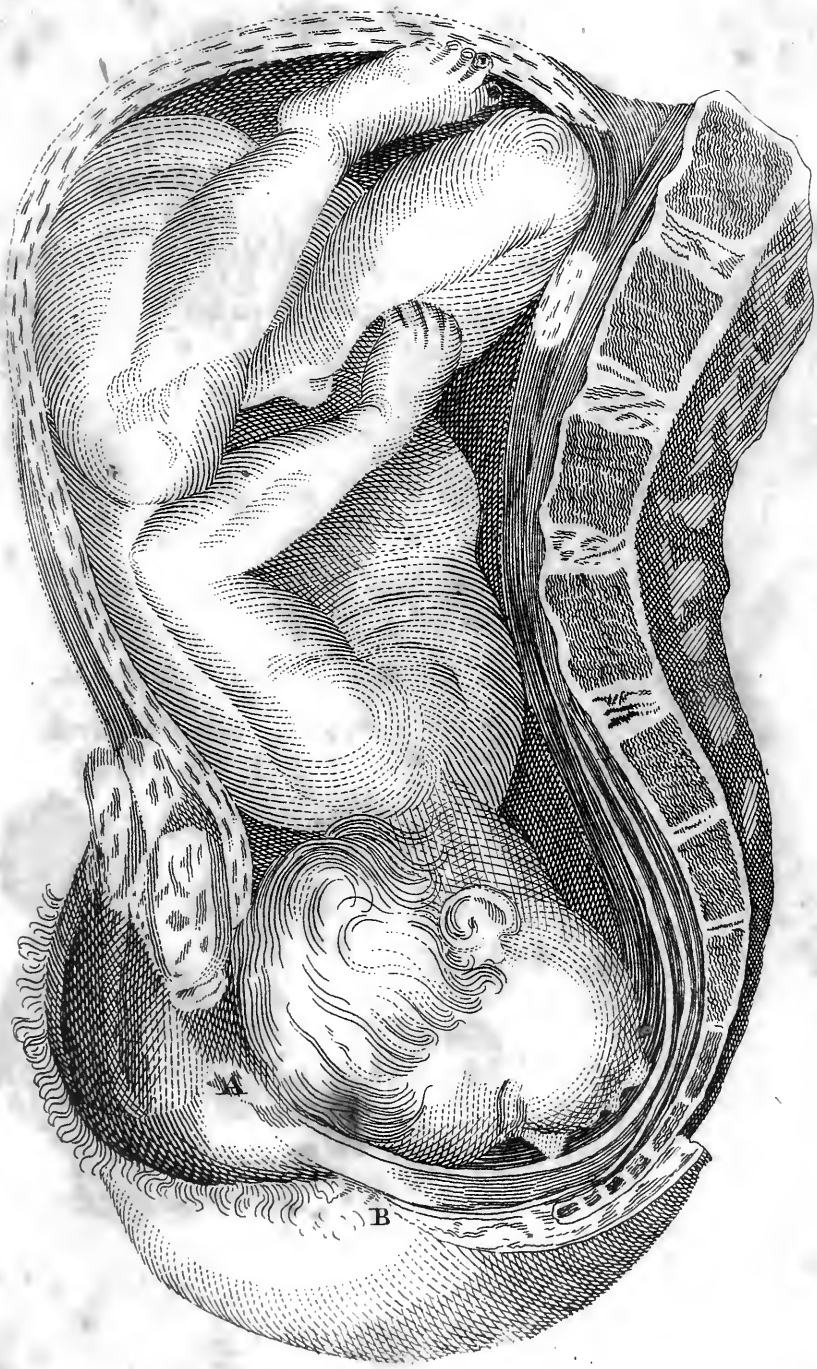
When the face preſents, and the chin is to the ſide of the *Pelvis*, the patient muſt lie on her ſide; and after the forceps are fixed along the ears, the chin is to be brought down to the lower part of the *Os Iſchiûm*, and then turned out below the *Pubes*, and delivered in a ſlow manner as above.

Vide Vol. II. Coll. 16. No. 6. As alſo Tables XVI, XVII, XVIII, and XIX, for the deſcription of the parts.

TWENTY FIFTH TABLE

Shows, in a lateral view of the right ſide, the face of the *Fœtus* preſenting, as in Table XXIII, but in the contrary poſition; that is, with the chin

Plate XXV.



chin to the *Os Sacrum*, and the *Bregma* to the *Pubes*, the waters evacuated, and the *Uterus* contracted.

A. The *Os Externum* not yet begun to ſtretch.
B. The *Anus*. *Vide* Table XX, for the further deſcription of the parts.

In ſuch caſes, as well as in thoſe of the laſt mentioned Table, if the child is ſmall, the head will be puſhed lower with the labour pains, and gradually ſtretch the lower part of the *Vagina* and the external parts ; by which means the *Os Externum* will be more and more dilated, until the *Vertex* comes out below the *Pubes*, and riſes up on the outſide ; in which caſe the delivery is then the ſame as in natural labours. But if the head is large, it will paſs along with great difficulty ; whence the brain, and veſſels of the neck, will be ſo much compreſſed and obſtructed, as to deſtroy the child. To prevent which, if called in time, before the head is far advanced in the *Pelvis*, the child ought to be turned, and brought footling. If the head, however, is low down, and cannot be turned, the delivery is then to be performed with the forceps, either by bringing along the head as it preſents, or as in the following Table. See the references in the preceding Table.

N. B. Alarming floodings only excepted, it is bad practice to turn the child when *the head preſents* ; and in caſes of *relative diſproportion* between

tween it and the *Pelvis*, we can never propoſe to ſave the child by *turning*.

See note, Table XXI, page 45.

TWENTY SIXTH TABLE

Repreſents, by outlines, in a lateral view of the left ſide of the ſubject, the *Fœtus* in the ſame ſituation as in the former Table.

The head here is ſqueezed into a very oblong form; and though forced down ſo as fully to dilate the *Os Externum*, yet the *Vertex* and *Occiput* cannot be brought ſo far down, as to turn out from below the *Pubes*, as in the foregoing Table, without tearing the *Perinæum* and *Anus*, as well as the *Vagina* and *Rectum*.

The beſt method in this caſe, after either the ſhort or long curved forceps have been applied along the ears, as repreſented in the Table, is to puſh the head as high up in the *Pelvis* as is poſſible; after which the chin is to be turned from the *Os Sacrum* to either *Os Iſchiûm*, and afterwards brought down to the inferior part of the laſt mentioned bone. This done, the operator muſt pull the forceps with one hand, whilſt two fingers of the other are fixed on the lower part of the chin or under jaw, to keep the face in the middle

Plate XXVI.

middle, and prevent the chin from being detained at the *Os Iſchiûm*, as it comes along, and in this manner move the chin round with the forceps, and the above fingers, until brought under the *Pubes*, which done, the head will be eaſily extracted, as in Table XXIV.

If, before aſſiſtance has been called, the head is ſo ſqueezed down into the *Pelvis*, that it is impoſſible to move the chin from the *Sacrum* to either *Os Iſchiûm*, ſo as to deliver with the Forceps for the ſafety of the child, the operator muſt wait with patience, as long as the woman is not in danger, or there is no certainty of the death of the *Fœtus* : but if the patient runs the leaſt riſk, the head muſt be delivered with the crotchet.

In general, with reſpect to the poſture of the woman in the application of the forceps, when the ears are to the ſides of the *Pelvis*, the forceps, as was obſerved in Table XXIV, are moſt eaſily introduced when the patient lies upon her back, with her breech over the ſide of the bed ; but when the ear is to the *Pubes* or *Groin*, they are better applied when the patient lies on her ſide, as was obſerved in the caſes where the *Vertex* preſented.

Vide Table XXIV, for the deſcription of the parts, and the references. Alſo Table XXXIX, for the manner of uſing the crotchet. See alſo *general rules* for uſing the forceps in Dr. *Hamilton's* Outlines of Midwifery, page 269, and ſeq. and Dr. *Denman's* Aphoriſms on laborious and preternatural preſentation.

TWENTY SEVENTH TABLE

Gives a lateral internal view of a diſtorted *Pelvis*, divided longitudinally, with the head of a *Fœtus* of the ſeventh month paſſing the ſame. *Vide* the explanation of Table III.

A. B. C. The *Os Sacrum* and *Coccyx*.

D. The *Os Pubis* of the left ſide.

E. The *Tuberoſity* of the *Os Iſchium*, of the ſame ſide.

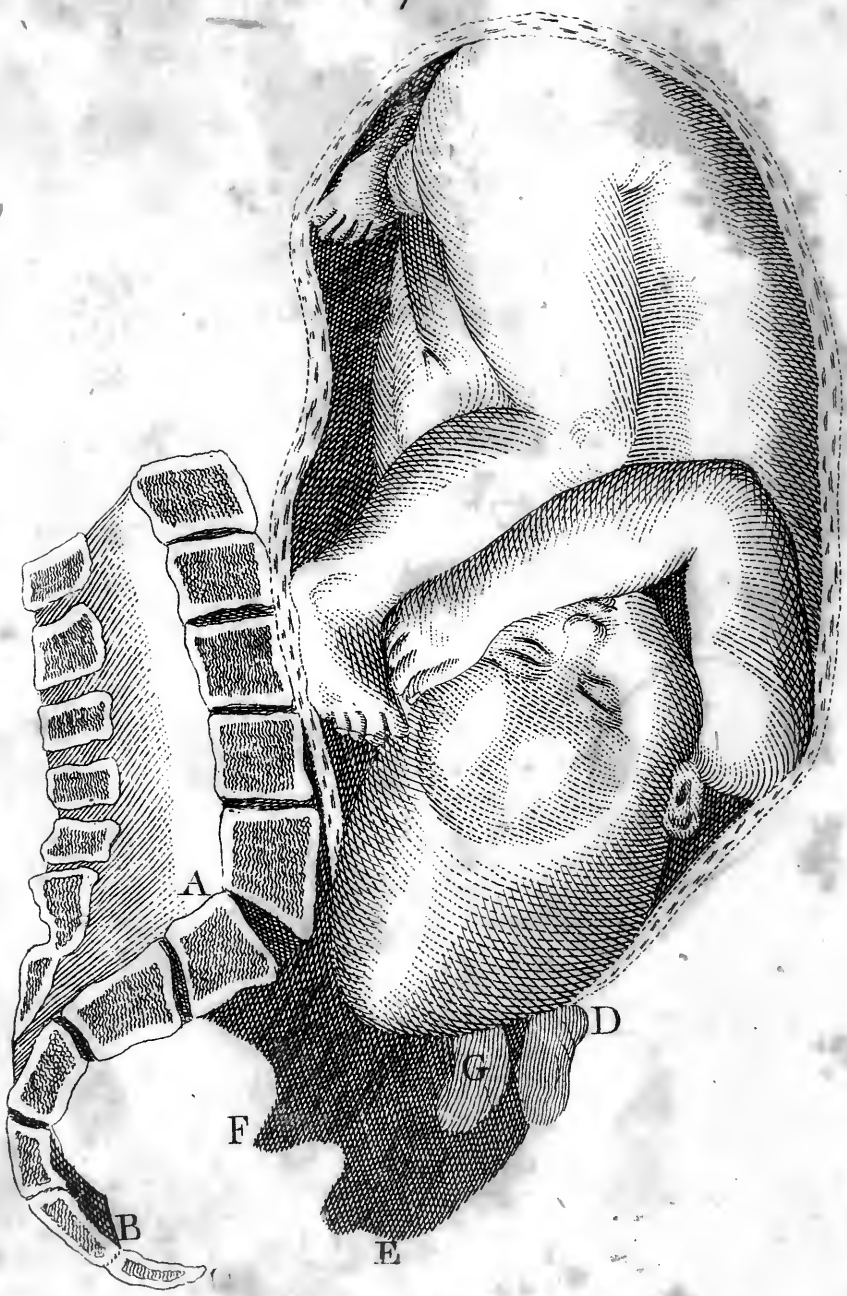
The head of the *Fœtus* here, though ſmall, is with difficulty ſqueezed down into the *Pelvis*, and changed from a round to an oblong form before it can paſs, there being only the ſpace of two inches and one quarter between the projection of the ſuperior part of the *Sacrum* and the *Oſſa Pubis*. If the head is ſoon delivered, the child may be born alive: But if it continues in this manner many hours, it is in danger of being loſt, on account of the long preſſure on the brain. To prevent which, if the labour pains are not ſufficiently ſtrong, the head may be helped along with the forceps, as directed in Table XVI.

Dr. Oſburn has endeavoured to prove, "that the fætal head, at full maturity, cannot bear compreſſion to a volume much ſmaller than three inches, from one parietal bone to the other, conſiſtently with ſafety to the child's life." He

therefore

Plate XXVII.

Plate XXVIII.



therefore concludes: "Through a *Pelvis* which has its cavity so contracted, that the bones approach nearer to each other than three inches, it is utterly impossible for a living child, at full maturity, by any means to pass."

See Dr. Osburn's Essay on Laborious Parturition, page 28. et seq.

This figure may serve as an example of the extreme degree of distortion of the *Pelvis*, between which and the well formed one are many intermediate degrees, according to which the difficulty of delivery must increase or diminish, as well as from the disproportion of the *Pelvis* and head of the *Fœtus*; all which cases require the greatest caution, both as to the management and safety of the mother and child.

Vide Vol. I. Book III. Chap. 2. Sect. 3. No. 5. Chap. 3. Sect. 4. No. 3. Vol. II. Coll. 21. No. 1. and Coll. 29.

TWENTY EIGHTH TABLE

Gives a side view of a distorted *Pelvis*, as in the former Table, with the head of a full grown *Fœtus* squeezed into the brim, the *Parietal* bones decussating each other, and compressed into a conical form.

A. B. C. The *Os Sacrum* and *Coccyx*.
D. The *Os Pubis* of the left ſide.
E. The *Tuberoſity* of the *Os Iſchiûm*.
F. The *Proceſſus Acutus*.
G. The *Foramen Magnum*.

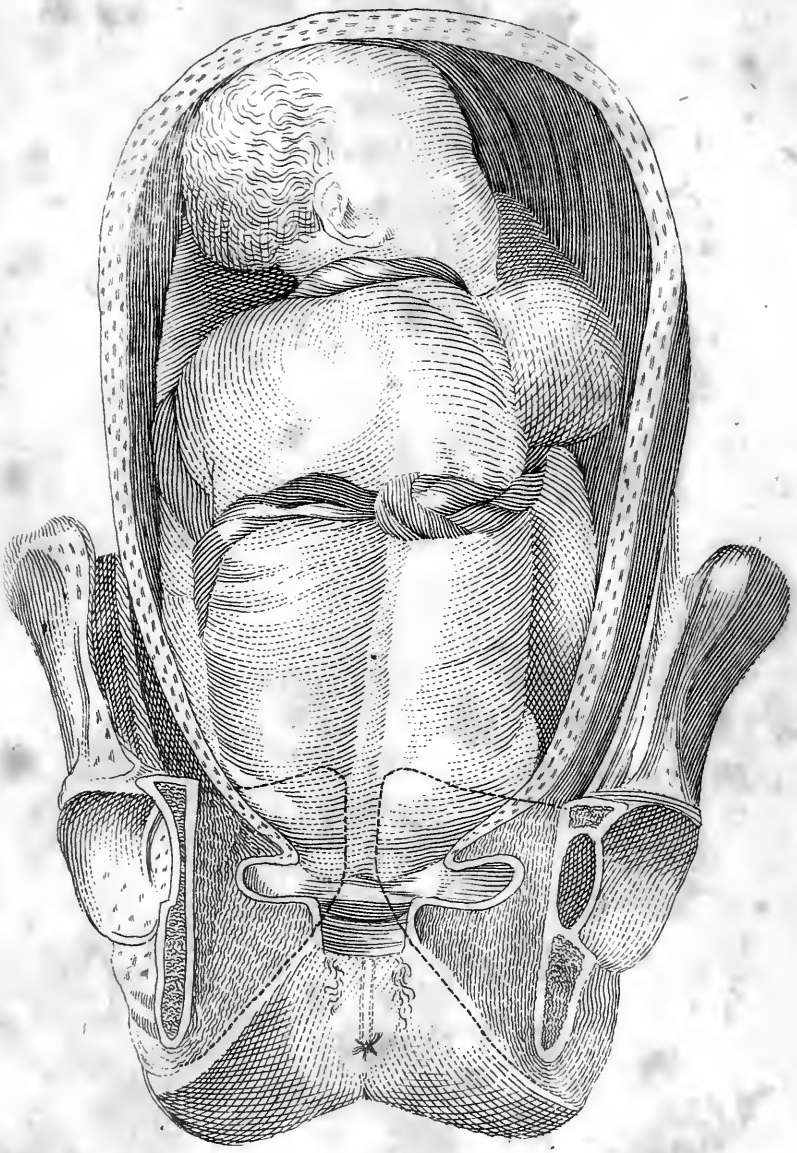
This Table ſhows the impoſſibility in ſuch a caſe to ſave the child, unleſs by the *Cæſarian* operation; which, however, ought never to be performed, excepting when it is impracticable to deliver at all by any other method. Even in this caſe, after the upper part of the head is diminiſhed in bulk, and the bones are extracted, the greateſt force muſt be applied in order to extract the bones of the face and baſis of the ſkull, as well as the body of the *Fœtus*.

Vide Vol. I. Book III. Chap. 3. Sect. 7. Chap. 5. Sect. 3. and Vol. III. Coll. 31. 39.

N. B. In oppoſition to the opinion of Dr. Smellie, and ſentiments of former authors, Dr. Oſborn has proved, from the caſe of Elizabeth Sherwood, that "a child at full maturity may be extracted by the crotchet through a *Pelvis* whoſe aperture does not exceed one inch and a half from *Pubes* to *Sacrum*, with tolerable facility to the operator, and perfect ſafety to the mother; dimenſions much leſs than what have been ſuppoſed to require the *Cæſarian* operation, even in the lateſt and beſt books." Eſſay on Laborious Parturition, page 64.—251, &c.

TWENTY

Plate XXIX.



TWENTY NINTH TABLE

Repreſents, in a front view of the *Pelvis*, as in Table XXII, the breech of the *Fœtus* preſenting, and dilating the *Os Internum*, the *Membranes* being too ſoon broke. The fore parts of the child are to the poſterior part of the *Uterus*; and the *Funis* with a knot upon it, ſurrounds the neck, arm, and body.

Some time after this and the following Tables were engraved, Dr. *Kelly* ſhowed me a ſubject he had opened, where the breech preſented itſelf, and lay much in the ſame poſition with its body as in the ninth Table, ſuppoſing the breech in that figure turned down to the *Pelvis*, and the head up to the *Fundus Uteri*.

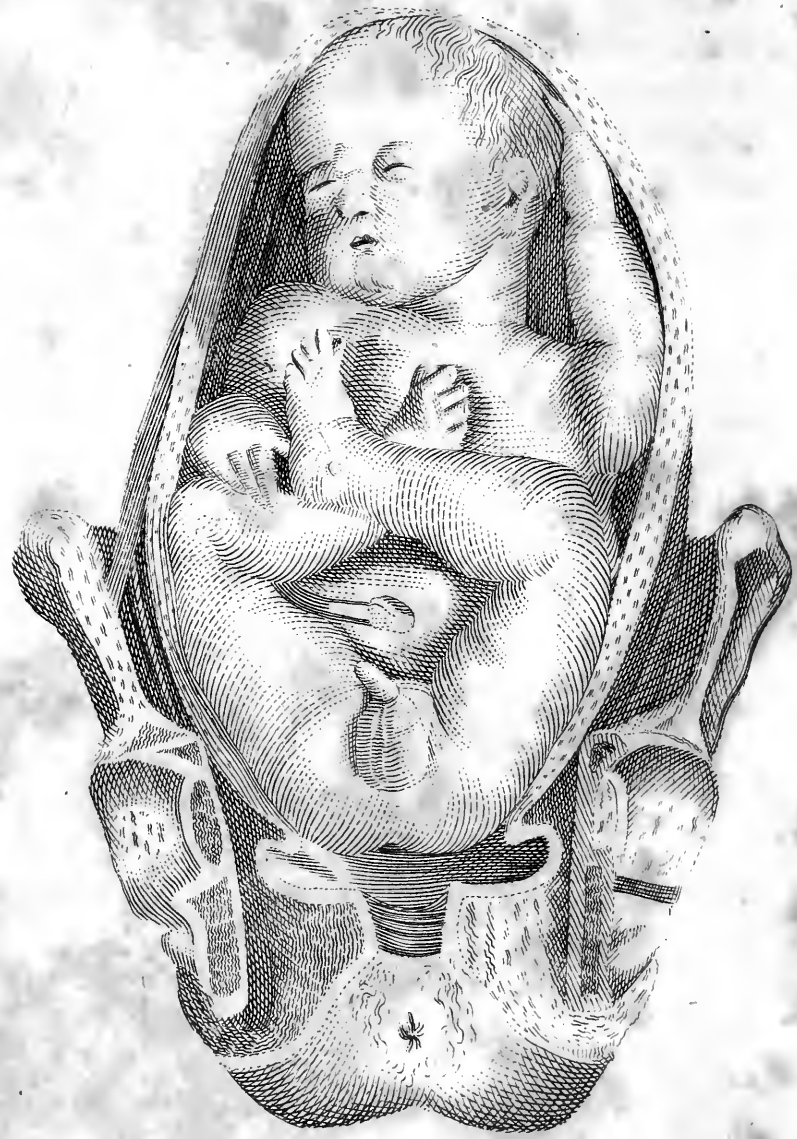
I have ſometimes felt, in theſe caſes [when labour was begun, and before the breech was advanced into the *Pelvis*] one hip at the *Sacrum*, the other reſting above the *Os Pubis*, and the private parts to one ſide: But before they could advance lower, the *Nates* were turned to the ſides and wide part of the brim of the *Pelvis*, with the private parts to the *Sacrum*, as in this Table; though ſometimes to the *Pubes*, as in the following Table. As ſoon as the breech advances to the lower part of the baſin, the hips again return to their former poſition, *viz.* one hip turned out

below the *Os Pubis*, and the other at the back parts of the *Os Externum*.

N. B. In this caſe the child, if not very large, or the *Pelvis* narrow, may be often delivered alive by the labour pains; but if long detained at the inferior part of the *Pelvis*, the long preſſure of the *Funis* may obſtruct the circulation. In moſt caſes where the breech preſents, the effect of the labour pains ought to be waited for, until at leaſt they have fully dilated the *Os Internum* and *Vagina*, if the ſame have not been ſtretched before with the waters and *Membranes*. In the mean time, whilſt the breech advances, the *Os Externum* may be dilated gently during every pain, to allow room for introducing a finger or two of each hand to the outſide of each groin of the *Fœtus*, in order to aſſiſt the delivery when the *Nates* are advanced to the lower part of the *Vagina*. But if the *Fœtus* is larger than uſual, or the *Pelvis* narrow, and after a long time and many repeated pains the breech is not forced down into the *Pelvis*, the patient's ſtrength at the ſame time failing, the operator muſt in a gradual manner open the parts, and, having introduced a hand into the *Vagina*, raiſe or puſh up the breech of the *Fœtus*, and bring down the legs and thighs. If the *Uterus* is ſo ſtrongly contracted that the legs cannot be got down, the largeſt end of the blunt hook is to be introduced, as directed in Table XXXVII. As ſoon as the breech or legs are brought down, the body and head are to be delivered as deſcribed in

the

Plate XXX.



the next Table, only there is no neceſſity here to alter the poſition of the child's body.

Vide Vol. I. Book III. Chap. 4. Sect 1, 2. Vol. III. Coll. 32.

The deſcription of the parts in this, and the following Table, is the ſame as in Table XXII, only the dotted lines in this deſcribe the place of the *Oſſa Pubis*, and anterior parts of the *Oſſa Iſchiûm* which are removed, and may ſerve in this reſpect as an example for all the other front views, where, without diſfiguring the Table, they could not be ſo well put in.

N. B. The uſe of the blunt hook, in breech caſes, is a hazardous expedient; and manual aſſiſtance of every kind ſhould be avoided, the moſt urgent caſes only excepted.

See Dr. *Hamilton's* Outlines of Midwifery, page 370, et ſeq.

THIRTIETH TABLE

Shows, in the ſame view, and with the ſame references as the former, the breech of the *Fœtus* preſenting; with this difference, however, that the fore parts of the child are to the fore part of the *Uterus*. In this caſe, when the breech coming double, as it preſents, is brought down to the hams, the legs muſt be extracted, a cloth wrapped

ped round them, and the fore parts of the child turned to the back parts of the woman. If a pain ſhould in the mean time force down the body of the child, it ought to be puſhed up again in turning, as it turns eaſier when the belly is in the *Pelvis*, than when the breaſt and ſhoulders are engaged; and as ſometimes the face and forehead are rather towards one of the groins, a quarter turn more brings theſe parts to the ſide of the *Pelvis*, and a little backwards, after which the body is to be brought down. If the child is not large, the arms need not be brought down, and the head may be delivered by preſſing back the ſhoulders and body of the child to the *Perinæum*, and whilſt the chin and face are within the *Vagina*, to bring the *Occiput* out from below the *Pubes*, according to *Daventer*'s method. Or the operator may introduce a finger or two into the mouth, or on each ſide of the noſe, and, ſupporting the body on the ſame arm, fix two fingers of the other hand over the ſhoulders, on each ſide of the child's neck, and in this manner raiſe the body over the *Pubes*, and bring the face and forehead out with a ſemicircular turn upwards, from the under part of the *Os Externum*. All this may be eaſily done when the woman lies on her ſide; but if the child is large, and the *Pelvis* narrow, it is better to turn the patient on her back, as deſcribed in Table XXIV; and after the legs and body are extracted as far as the ſhoulders, the arms are to be cautiouſly brought down, and the head delivered. If the woman has ſtrong

pains,

pains, and when by the felt pulſation of the veſſels of the *Funis Umbilicalis*, or the ſtruggling motions of the *Fœtus*, it is certain that the child is ſtill alive, wait with patience for the aſſiſtance of the labour: But if that and the hand are inſufficient, and the pulſation of the *Funis* turns weaker, and if the child cannot be brought double, the breech muſt be puſhed up; and if the reſiſtance of the *Uterus* is ſo great as to prevent the extraction of the legs, the patient ought to be turned on her knees and elbows. When the legs are thus brought down, the woman, if needful, is to be again turned to her back, to allow more freedom to deliver the body and head, as before deſcribed. If the head, after ſeveral trials, cannot be delivered, without endangering the child, from overſtraining the neck, the long curved forceps ought to be applied, as in Table XXXV. If theſe fail, and the patient is not in danger, ſome time may be allowed for the effect of the labour pains; which likewiſe proving inſufficient, the crotchet muſt be uſed as in Table XXXIX, and when it is certain that the child is dead, or that there is no poſſibility of ſaving it.

N. B. Under proper management, if there is no conſiderable relative diſproportion between the head and the *Pelvis*, the hand of the operator will be ſufficient to relieve the head, when retained after the delivery of the body, in breech, and other preternatural preſentations. See Dr. *Hamilton*'s Outlines of Midwifery, p. 366 to 368.

THIRTY

THIRTY FIRST TABLE

Repreſents, in a front view of the *Pelvis*, the *Fœtus* compreſſed by the contraction of the *Uterus* into a round form, the fore parts of the former being towards the inferior part of the latter, and one foot and hand fallen down into the *Vagina*. In this figure the anterior part of the *Pelvis* is removed by a longitudinal ſection through the middle of the *Foramen Magnum*.

A. A. The ſuperior parts of the *Oſſa Ilium*.

B. B. The *Uterus*.

C. The mouth of the *Womb* ſtretched, and appearing in

O. O. O. O. The *Vagina*.

D. The inferior and poſterior part of the *Os Externum*.

E. E. E. E. The remaining part of the *Oſſa Pubis* and *Iſchium*.

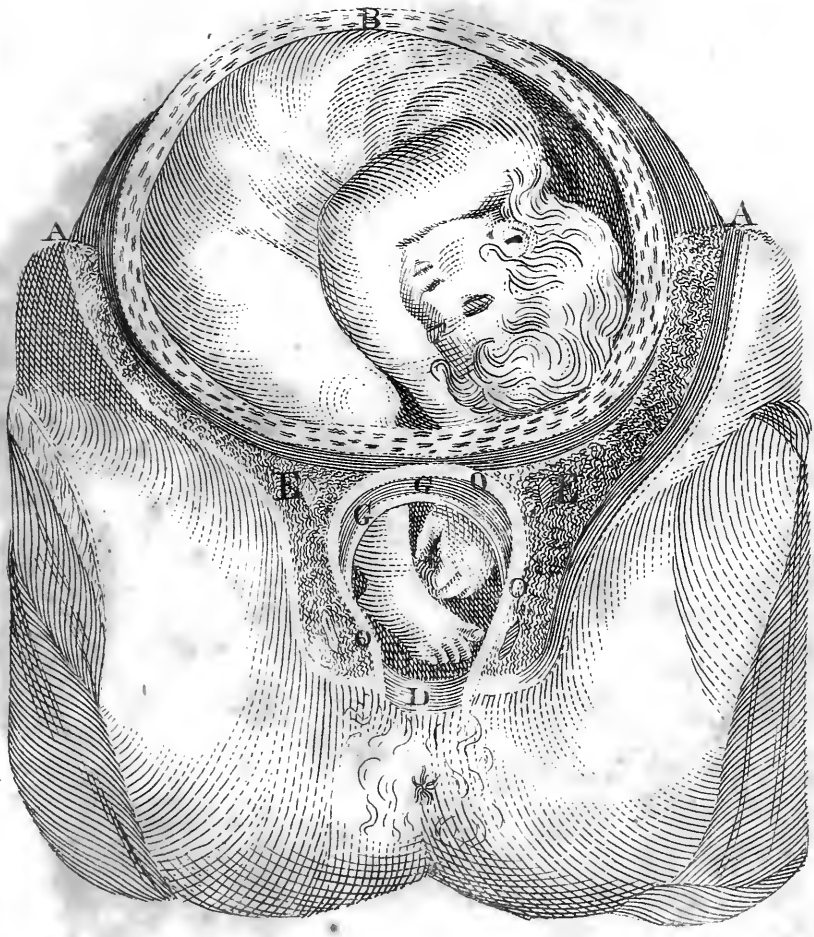
F. F. F. F. The *Membrana Adipoſa*.

This and the three following Tables, repreſenting four different preternatural poſitions of the *Fœtus in utero*, may ſerve as examples for the manner of delivery in theſe as well as in all other preternatural caſes.

In all preternatural caſes, the *Fœtus* may be eaſily turned and delivered by the feet, if known

before

Plate XXXI.



before the *Membranes* are broke, and the waters diſcharged; or if the *Pelvis* is narrow, and the patient is ſtrong, the head, if large, may be brought down ſo as to preſent in the natural way: But if all the waters are diſcharged, and the *Uterus* is ſtrongly contracted to the body of the *Fœtus*, this laſt method can ſeldom take place, on account of the ſtrong preſſure of the *Uterus*, and ſlipperineſs of the child's head.

In the preſent caſe, the woman may either be laid on her back or ſide, as deſcribed in Tables XVI, and XXIV; and the operator, having ſlowly dilated the *Os Externum* with his fingers, muſt introduce the ſame into the *Vagina*, and puſh up into the *Uterus* the parts of the *Fœtus* that preſent; or if there is ſpace for it, his hand may paſs in order to dilate the *Os Internum* if not ſufficiently ſtretched previouſly by the *Membranes* and waters. This done, he muſt advance his hand into the *Uterus*, to know the poſition of the *Fœtus*; and, as the breech is rather lower than the head, ſearch for the other leg, and bring down both feet without the *Os Externum*. A cloth muſt then be wrapped round them; and, having graſped them with one hand, he is to introduce the other into the *Uterus*, in order to raiſe the head of the *Fœtus*, whilſt the legs and thighs are pulled down by the hand that holds the feet. When the head is raiſed, and does not fall down again, the hand of the operator may be withdrawn from the *Uterus*, and the delivery completed as directed in the two former Tables. By the artleſs

method

method of taking hold and pulling one or both feet, the breech may come down and the head riſe to the *Fundus ;* but if this ſhould not happen, there will be great danger of overſtraining the *Fœtus,* which is prevented by the former method. If the *Membranes* are broken before the *Os Uteri* is largely opened, and the hand of the operator cannot be introduced, which ſometimes happens in a firſt pregnancy, the parts of the *Fœtus* ſhould be allowed to protrude ſtill further, by which means the rigidity of the *Os Internum* will in time be leſſened.

Vide Vol. I. and III. on preternatural labours.

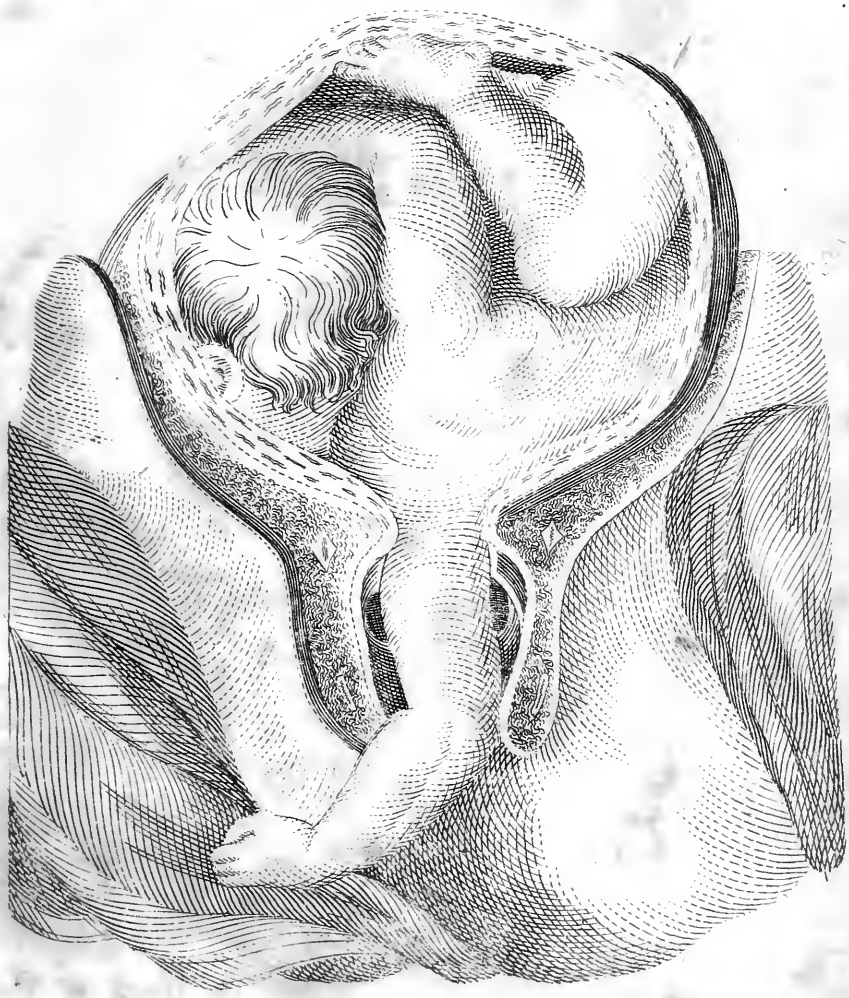
See alſo directions for the management of preternatural labours in Dr. *Hamilton's* Outlines of Midwifery, page 357, et ſeq. and Dr. *Denman's* Aphoriſms reſpecting the Diſtinction and Management of preternatural preſentation.

THIRTY SECOND TABLE.

Repreſents, in the ſame view with the former, the *Fœtus* in the contrary poſition ; the breech and fore parts being towards the *Fundus Uteri,* the left arm in the *Vagina,* and fore arm without the *Os Externum,* the ſhoulder being likewiſe forced into the *Os Uteri.*

The

Plate XXXII.



The operator in this caſe muſt introduce his fingers between the back part of the *Vagina* and the arm of the *Fœtus*, in order to raiſe the ſhoulder and make room for paſſing his hand into the *Uterus* to diſtinguiſh the poſition. This being known, he ought to puſh up the ſhoulder to that part of the *Uterus*, where the head is lodged, in order to raiſe the ſame to the *Fundus*. If the body of the *Fœtus* does not move round, and thereby lie in a more convenient poſition for bringing down the legs, the hand of the operator ought to be puſhed up ſtill higher to ſearch for, and take hold of the feet, which are to be brought down as far as is poſſible. If this ſhould not change the poſition, the ſhoulder is to be puſhed up, and the legs pulled down alternately, until they are brought down into the *Vagina*, or without the *Os Externum*, after which the delivery may be completed as in the former caſe.

If the feet cannot be brought down lower than into the *Vagina*, a nooſe may be introduced over both ankles, by which the legs are brought lower by pulling the nooſe with one hand, whilſt the other, previouſly introduced into the *Uterus*, puſhes up the ſhoulders and head. By this double force the poſition of the *Fœtus* is to be altered, and the delivery effected. In theſe caſes, as the ſhoulder is raiſed to the *Fundus*, the arm commonly returns into the *Uterus*; but if the arm is ſo ſwelled as to prevent the introduction of the operator's hand, and cannot be folded up or returned into the *Uterus*, it muſt be taken off at the

ſhoulder,

ſhoulder, or elbow, in order to deliver and ſave the woman*. If both arms come down, when the breaſt preſents, the methods above deſcribed are to be uſed.

Vide the explanations and references of the foregoing Table to illuſtrate this and the following.

THIRTY THIRD TABLE

Exhibits, in the ſame view likewiſe of the *Pelvis* with the former, a third poſition of the *Fœtus* when compreſſed into the round form, the belly, *viz.* or *Umbilical* region, preſenting at the *Os Internum*, and the *Funis* fallen down into the *Vagina*, and appearing at the *Os Externum*.

The delivery in this caſe is to be effected as in the former Table, by puſhing up the breaſt, and bringing down the legs. When the belly preſents, it is eaſier coming at the legs, than when the breaſt preſents, becauſe in the former caſe the head is nearer to the *Fundus Uteri*, and the legs and thighs

* The protruding arm of the child does not impede the introduction of the operator's hand in turning; and the horrid expedient of *amputation* recommended here, and by former practitioners, is ſeldom neceſſary, even in caſes of conſiderable narrowneſs of the *Pelvis* from diſtortion.

See Dr. Hamilton's Outlines of Midwifery, page 392, et ſeq.

Plate XXXIII.

Plate XXXIV.

thighs lower. If the belly or breaſt is forced down into the lower part of the *Pelvis*, the child will be in danger from the bending of the *Vertebræ*, and the preſſure of the ſpinal marrow, ſo great force is alſo required to raiſe theſe parts up into the *Uterus*, in order to come at the feet, that it will ſometimes be neceſſary to turn the woman to her knees and elbows, to diminiſh the reſiſtance of the *Abdominal* muſcles. When the *Funis* comes down without the *Os Externum*, if there is a pulſation felt, it muſt immediately be replaced, and kept warm in the *Vagina*, to preſerve the circulation, and prevent a ſtagnation, from its being expoſed to cold air. If the *Funis* comes down when the head preſents, the child is in danger, if not ſpeedily delivered with the pains, or brought footling.

N. B. For an ingenious method of reducing the prolapſed cord, *See* London Medical Journal, Vol. VII. 1786, page 38.

See the two former Tables for the explanations and references.

THIRTY FOURTH TABLE

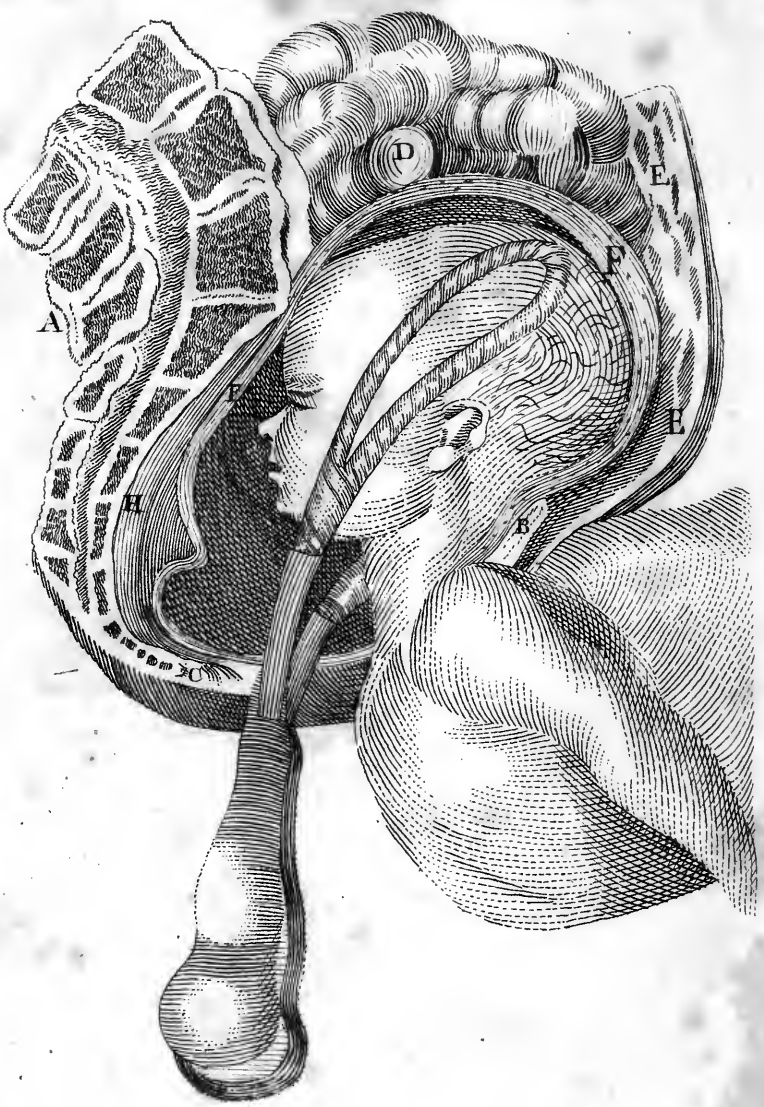
Shows, in a lateral view of the *Pelvis*, one of the moſt difficult preternatural caſes. The left ſhoulder, breaſt, and neck of the *Fœtus* preſenting,

ſenting, the head reflected over the *Pubes* to the right ſhoulder and back, and the feet and breech ſtretched up to the *Fundus*, the *Uterus* contracted at the ſame time, in form of a long ſheath round the body of the *Fœtus*.

A. B. C. The *Os Sacrum* and *Coccyx*.
D. The *Os Pubis* of the left ſide.
E. Part of the *Urinary* bladder.
F. The *Rectum*.
H. I. K. The private parts.
M. The *Anus*.
M. N. The *Perinæum*.
V. The *Meatus Urinarius*.
O. The *Os Uteri* not yet opened, and ſituated backwards towards the *Rectum* and *Coccyx*.
R. S. The ſame repreſented in dotted lines, as opened when the labour is begun.
T. U. The ſame more fully dilated, but nearer to the poſterior than anterior part of the *Pelvis*.
W. P. The ſame not fully ſtretched at the fore part, though intirely obliterated at the back part, the *Uterus* and *Vagina* being there only ſometimes one continued ſurface.

Hence it appears why the anterior part of the *Os Uteri* is frequently protruded before the head of the *Fœtus* at the *Pubes*, which, if it retards delivery, is removed by ſliding it up with a finger or two between the head and laſt mentioned part. The practice recommended here is attended with conſiderable hazard; and in a favourable preſentation

Plate XXXV.



ſentation of the *Fœtus* the dilatation may be ſafely truſted to nature. *Vide* Tables IX, X, XI, XII, XIII.

The manner of delivery, in the poſition of the *Fœtus*, as repreſented in this Table, is to endeavour with the hand to force up the part preſenting, in order to raiſe the head to the *Fundus*. If this is impoſſible from the ſtrong contraction of the *Uterus*, the operator muſt puſh up his hand in a ſlow and cautious manner along the breaſt and belly of the child, in order to come at the legs and feet, which are to be taken hold of, and brought down as far as the poſition of the *Fœtus* will admit of. The body is then to be moved round by puſhing up the lower parts, and pulling down the upper, until the feet are brought without the *Os Externum*, and the delivery completed, as in Table XXXI. But if the feet cannot be got down, ſo as to be taken hold of without the *Os Externum*, a nooſe muſt be fixed over the ankles, as in Table XXXII.

Vide Vol. I, and III, as directed in Table XXXI.

THIRTY FIFTH TABLE

Shows, in a lateral view of the *Pelvis*, the method of aſſiſting the delivery of the head of the *Fœtus* with the long curved forceps, in præternatural caſes, when it cannot be done with the hands, as deſcribed in Tables XXIX, and XXX.

A. The three loweſt *Vertebræ* of the loins, with the *Os Sacrum* and *Coccyx*.

B. The *Os Pubis* of the left ſide.

C. C. The *Perinæum* and *Anus* preſſed backwards with the forceps.

D. The *Inteſtines.*

E. E. The *Parietes* of the *Abdomen.*

F. F. F. The *Uterus.*

G. The poſterior part of the *Os Uteri.*

H. The *Rectum.*

I. The *Vagina.*

After the body and arms of the child are delivered, and the different methods uſed to bring down the head with the hands, as directed in the above Table, and more fully deſcribed in Vol. I, and III, the following method is to be tried in order to ſave the child, which muſt otherwiſe be loſt by overſtraining the neck and ſpinal marrow. The woman being in the ſupine poſition, as in Table XXIV, one of the aſſiſtants ought to hold the body and arms of the child up towards the *Abdomen* of the woman, to give more room to the operator, who having introduced one hand up to the child's face, and moved it from the ſide a little backwards, for the eaſier application of the forceps along the ſides of the head, muſt then turn his hand to one of the ears, and introduce one of the blades with the other hand between the ſame and the head, with the cured ſide towards the *Pubes*, as in this Table. This done, the hand is to be brought down to hold the handle of the blade of the forceps, until the other hand is introduced to the other ſide of the head, by which means the ſame is preſſed againſt the

blade

blade that is up, and which is thus prevented from ſlipping, whilſt the other hand introduces the ſecond blade on the oppoſite ſide. The blades being thus introduced, care muſt be taken, that in joining them no part of the *Vagina* is locked in. After the forceps are firmly fixed along the ſides of the head, the face and forehead muſt be turned again to the ſide of the brim of the *Pelvis*, by which means the wide part of the head is to the wide part of the brim. This done, the head is to be brought lower, and the force gradually increaſed, according to the reſiſtance from the largeneſs of the head, or narrowneſs of the *Pelvis*. The forehead, when brought low enough down, is then to be turned into the concavity of the *Os Sacrum* and *Coccyx*, the handles of the forceps raiſed upwards, and the ſame caution uſed in bringing the head through the *Os Externum*, as deſcribed in Table XIX, and XXX. By this method the head will be delivered, the child frequently ſaved, and the uſe of the crotchet prevented, except in thoſe baſons that are ſo narrow, that it is impoſſible to deliver without diminiſhing the bulk of the head.

Vide Table XXXIX. Alſo, Vol. I. Book III. Chap. 4. Sect. 5. Vol. III. Coll. 34, 35.

N. B. In preternatural labours, if the head cannot be relieved by the hands of the operator, the child can ſeldom be ſaved by mechanical expedients. In difficult caſes the long curved forceps may, however, be attempted to be applied. Thoſe of Dr. *Leak*, in thoſe circumſtances, are preferable to any others. See note after explanation of Table XXX.

THIRTY SIXTH TABLE

Repreſents, in a lateral view of the *Pelvis*, the method of extracting, with the aſſiſtance of a curved crotchet, the head of the *Fœtus*, when left in the *Uterus*, after the body is delivered and ſeparated from it, either by its being too large, or the *Pelvis* too narrow.

A. B. C. The *Os Sacrum* and *Coccyx*.

D. The *Os Pubis* of the left ſide.

E. E. The *Uterus*.

F. The locking part of the crotchet.

g. h. i. The point of the crotchet on the inſide of the *Cranium*.

If this caſe happens from the forehead's being towards the *Pubes*, or the child long dead, and ſo mortified that both the body and under jaw are ſeparated unexpectedly, the long forceps that are curved upwards will be ſufficient to extract the head; but if the ſame is large, and the *Pelvis* narrow, and the delivery cannot be effected by the above method, then the head muſt be opened, that its bulk may diminiſh, as it is extracted. The patient being placed either on her back, or ſide, as in the explanation of Table XVI, and XXIV, the left hand of the operator is to be introduced into the *Uterus*, and the forehead of the *Fœtus* turned to the right ſide of the brim of the *Pelvis*, and a little backwards, the chin being downwards;

Plate XXXVI.

downwards; after which the palm of the hand and fingers are to be advanced as high as the *Fontanelle*, and the head grasped with the thumb and little finger on each side, as firm as is possible, whilst an assistant presses on each side of the *Abdomen* with both hands, to keep the *Uterus* firm in the middle and lower part of the same. This done, the operator having with his right hand introduced and applied the crotchet to the head (the point being turned towards the forehead, and the convex part towards the *Sacrum)* he must go up along the inside of the left hand as high as the *Fontanelle*, and there, or near it, fix the point of the crotchet, keeping still the left hand in the former position, until with the other he pierces the *Cranium* with the point of the instrument, and tears a large opening in it from K to I; after this, keeping the crotchet steady, he may slide down his left hand in a cautious manner, lest the former position should be altered, and the head will sink lower down by the assistant's pressing on the *Abdomen*. The two fore fingers of the left hand are then to be introduced into the mouth, and the thumb below the under jaw, the hand being above the blade of the crotchet. When this firm hold is taken, the operator may begin and pull slowly with both hands, and as the brain discharges through the perforation, the head will diminish, and come along. If this method should fail from the slipperiness of the head, or its being so much ossified that a sufficient opening cannot be made, the *Vertex* must

be turned down to the brim of the *Pelvis*, the *Fontanelle* backwards, and each blade of the long forceps introduced along the ſides of the head, with the curved ſide towards the *Pubes*. After they are joined and locked, the handles are to be tied together with a fillet, to keep them firm on the head, an aſſiſtant is to keep the handles backwards until the *Cranium* is largely opened with the long ſciſſars ſhown in Table XXXIX. This done, the head is to be extracted in a ſlow manner, firſt turning the forehead to the ſide of the brim, and as the brain evacuates, and the head comes lower down, again turning the forehead into the concavity of the *Sacrum*, and completing the delivery, as in Table XVI.

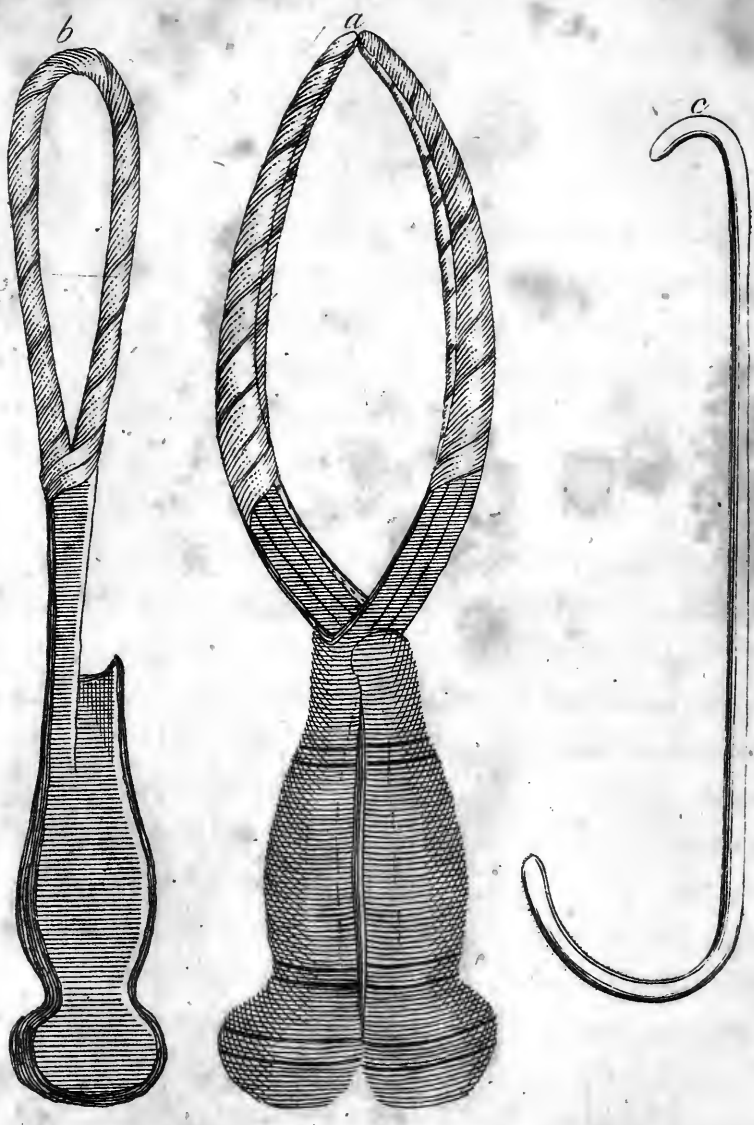
This Table may alſo ſerve for an example, to ſhow the method of fixing the crotchet on the head, when although the body is not ſeparated from it, yet it cannot be delivered with the operator's hands, or the long forceps, as in Table XXIX, and XXXV.

Vide Vol. I. Book III. Chap. 3. Sect. 7. Chap. 4. Sect. 5. Alſo, Vol. III. Coll. 31, 36.

N. B. It is the ſafeſt practice, where the reſiſtance is conſiderable from relative diſproportion, to diminiſh the volume of the child's head previous to the extraction with the hook.

THIRTY

Plate XXXVII.



THIRTY SEVENTH TABLE.

And the two following, repreſent ſeveral kinds of inſtruments uſeful in laborious and difficult caſes.

A. The ſtraight ſhort forceps, in the exact proportion as to the width between the blades, and length from the points to the locking part: The firſt being two and the ſecond ſix inches, which with five inches and a half (the length of the handles) makes in all eleven inches and a half. The length of the handles may be altered at pleaſure. I find, however, in practice, that this ſtandard is the moſt convenient, and with leſs difficulty introduced, than when longer, having alſo ſufficient force to deliver in moſt caſes, where their aſſiſtance is neceſſary. The handles and loweſt part of the blades may as here be covered with any durable leather, but the blades ought to be wrapped round with ſomething of a thinner kind, which may be eaſily renewed when there is the leaſt ſuſpicion of veneral infection in a former caſe; by being thus covered, the forceps have a better hold, and mark leſs the head of the child. For their eaſier introduction, the blades ought likewiſe to be greaſed with hog's lard.

B. Repreſents the poſterior part of a ſingle blade, in order to ſhow the width and length of the open part of the ſame, and the form and proportions of the whole. The handles, however, as here repreſented, are rather too large.

Vide Table XXI, for the figure and proportions of the long forceps, that are curved upwards, and covered in the ſame manner as the former.

The forceps were at firſt contrived to ſave the *Fœtus*, and prevent, as much as poſſible, the uſe of ſharp inſtruments; but even to this ſalutary method recourſe ought not to be had but in caſes where the degree of force requiſite to extract will not endanger, by its conſequences, the life of the mother. For, by the imprudent uſe of the forceps, much more harm may be done than good.

See the explanation of Table XVI, alſo the Preface to Vol. II, with the caſes in the collection on that ſubject.

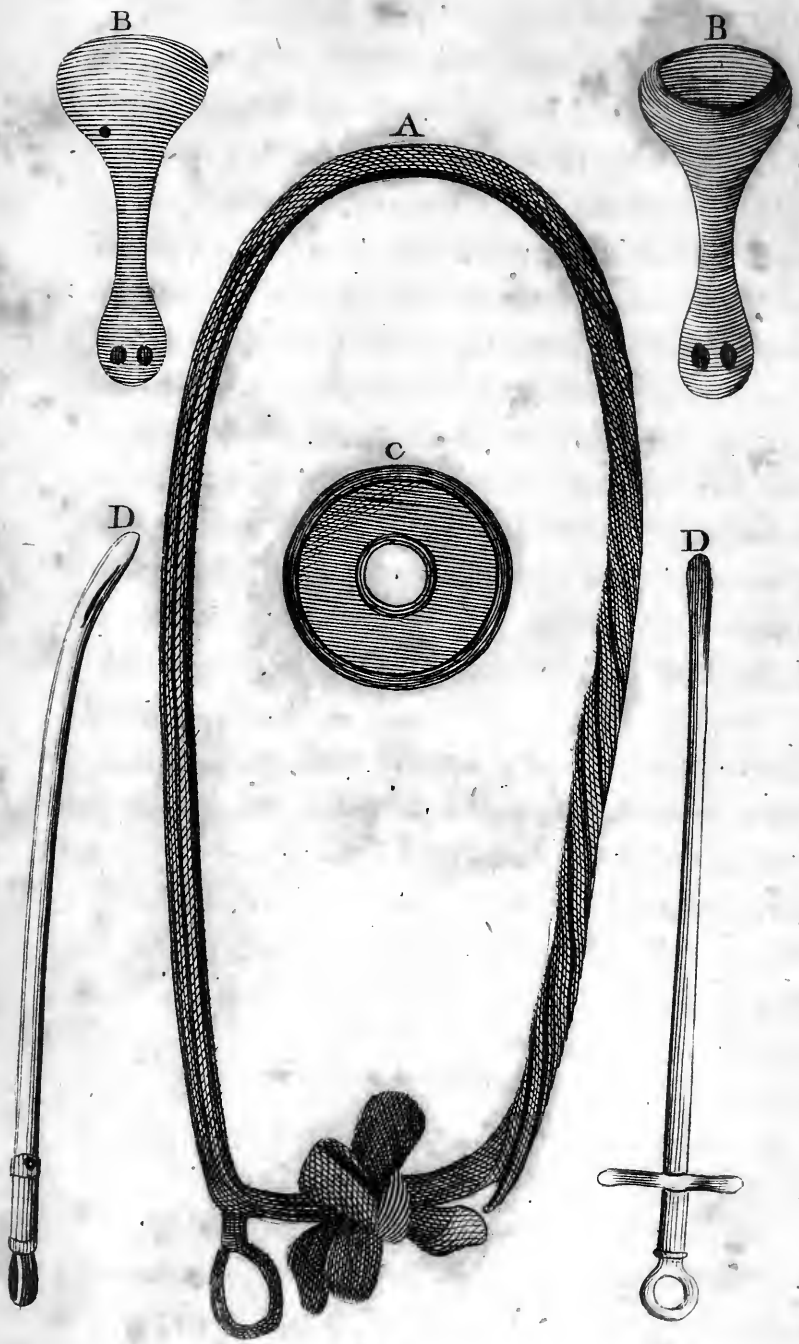
C. The blunt hook, which is uſed for three purpoſes.

Firſt, To aſſiſt the extraction of the head after the *Cranium* is opened with the ſciſſars, by introducing the ſmall end along the ear on the outſide of the head to above the under jaw, where the point is to be fixed; the other extremity of the hook being held with one hand, whilſt two fingers of the other are to be introduced into the foreſaid opening, by which holds the head is to be gradually extracted.

Secondly, The ſmall end is uſeful in abortions in any of the firſt four or five months, to hook down the *Secundines*, when lying looſe in the *Uterus*, when the patient is much weakened by floodings from the too long retention of the ſame, the pains alſo being unable to expel them, and when they cannot be extracted with the fingers.

But

Plate XXXVIII.



But if the *Placenta* ſtill adheres, it is dangerous to uſe this or any other inſtrument to extract the ſame, as it ought to be left until it ſeparates naturally. If a ſmall part of the *Secundines* is protruded through the *Os Uteri*, and pulled away from what ſtill adheres in the *Uterus*, the mouth of the *Womb* contracts, and that irritation is thereby removed which would have continued the pains, and have ſeparated and diſcharged the whole.

Thirdly, The large hook at the other end is uſeful to aſſiſt the extraction of the body, when the breech preſents, but ſhould be uſed with great caution, to avoid the diſlocation or fracture of the thigh.

N. B. The ſmall extremity of the hook can never be employed without danger to the mother in the former caſe; nor the large hook without hazard of deſtroying the child, or occaſioning violent injury to the mother in the latter.

Vide Table XXIX. Alſo, Vol. I. Book II. Chap. 3. Book. III. Chap. 3. Sect. 7. and Chap. 4. Sect. 2. Vol. II. Coll. 12. Vol. III. Coll. 31, 32.

THIRTY EIGHTH TABLE.

A, Repreſents the whalebone fillet, which may ſometimes be uſeful in laborious caſes, when the operator is not provided with the forceps in ſudden and unexpected exigencies.

When

When the *Vertex* of the *Fœtus* preſents, and the head is forced down into the lower part of the *Pelvis*, the woman weak, and the pains not ſufficient to deliver it, the double of the fillet is to be introduced along the fore part of the *Parietal* bones to the face, and if poſſible above the under jaw; which done, the whale bone may be either left in or pulled down out of the ſheath, and every weak pain aſſiſted by pulling gently at the fillet. If the head can be raiſed to the upper part of the *Pelvis*, the fillet will be more eaſily got over the chin, which is a ſafer and better hold than on the face. If the face or forehead preſents, the fillet is to be introduced over the *Occiput*.

Vide Vol. I. Book III. Chap. 3. Sect. 2. Vol. II. Coll. 24.

In ſuch caſes, likewiſe, the whale bone may be ſupplied by a twig of any tough wood, mounted with a limber garter or fillet ſowed in form of a long ſheath.

N. B. Fillets, of whatever conſtruction, being difficult of application, trifling in their powers, liable to cut or gall the child's head, though a ſecure hold ſhould be obtained, and in other reſpects inferior to the forceps, are now with juſtice rejected from practice.

B. B. Gives two views of a new kind of peſſary for the *Prolapſus Uteri*, being taken from the French and Dutch kind. After the *Uterus* is reduced, the large end of the peſſary is to be introduced into the *Vagina*, and the *Os Uteri* retained in the concave part, where there are three holes to prevent the ſtagnation of any moiſture. The

ſmall

ſmall end without the *Os Externum* has two tapes drawn through the two holes, which are tied to four other tapes, that hang down from a belt that ſurrounds the woman's body, and by this means keep up the peſſary. This ſort may be taken out by the patient when ſhe goes to bed, and introduced again in the morning; but as this ſometimes rubs the *Os Externum*, ſo as to make its uſe uneaſy, the round kind marked C are of more general uſe. They are made of wood, ivory, or cork (the laſt covered with cloth and dipt in wax:) the peſſary is to be lubricated with pomatum, the edge forced through the paſſage into the *Vagina*, and a finger introduced into the hole in the middle lays it acroſs within the *Os Externum*. They ought to be larger or ſmaller, according to the wideneſs or narrowneſs of the paſſage, to prevent their being forced out by any extraordinary ſtraining. *Vide* Vol. I. Book IV. Chap. 1. Sect. 7. Vol. III. Coll. 24.

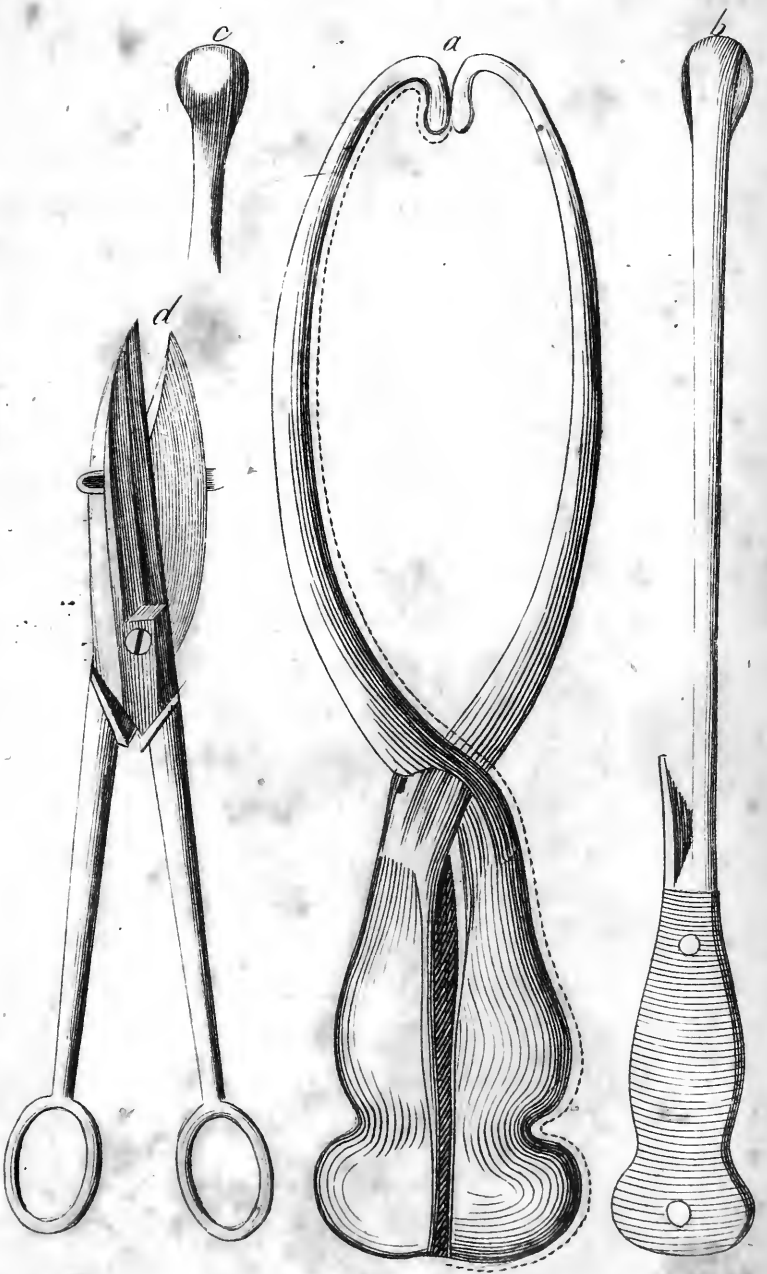
See a deſcription of a globe peſſary, recommended by Dr. Denman, London Medical Journal, Vol. VII, for 1786, page 56.

D. D. Gives two views of a female catheter, to ſhow its degree of curvature and different parts. Thoſe for common uſe may be made much ſhorter for conveniency of carrying in the pocket; but ſometimes when the head or body of the child preſſes on the bladder above the *Pubes*, it requires one of this length; and in ſome extraordinary caſes I have been obliged to uſe a male catheter. *Vide* Vol. I. Book II. Chap. 1. Sect. 1, 2. Vol. II. Coll. 10. No. 2.

THIRTY NINTH TABLE.

a Repreſents a pair of curved crotchets locked together in the ſame manner as the forceps. It is very rare that the uſe of both is neceſſary, excepting when the face preſents with the chin turned to the *Sacrum*, and when it is impoſſible to move the head to bring the child footling, or deliver with the forceps. In that caſe, if one crotchet is not ſufficient, the other is to be introduced, and when joined together will act both as crotchets, in opening the *Cranium*, and as the head advances, will likewiſe act as forceps in moving and turning the head more conveniently for the delivery of the ſame. They may alſo be uſeful to aſſiſt when the head is left in the *Uterus*, and one blade is not ſufficient. There is ſeldom occaſion, however, for the ſharp crotchet, when the head preſents, the blunt hook in Table XXVII, being commonly ſufficient, or even the forceps to extract the ſame, after it is opened with the ſciſſars. Great care ought to be taken when the ſharp crotchet is introduced, to keep the point towards the *Fœtus*, eſpecially in caſes where the fingers cannot be got up to guide the ſame. The dotted lines along the inſide of one of the blades, repreſent a ſheath that is contrived to guard the point until it is introduced high enough; the ligature at the handles marked with the two dotted lines is then to be untied, the ſheath withdrawn,

Plate XXXIX.



drawn, and the point, being uncovered, is fixed as directed in Table XXXVI.

The point guarded, with this ſheath, may alſo be uſed inſtead of the blunt hook.

b Gives a view of the back part of one of the crotchets, which is twelve inches long.

c Gives a front view of the point, to ſhow its length and breadth, which ought to be rather longer and narrower than here repreſented.

N. B. In the leſs improved ſtate of the art, when mechanical exertions were chiefly truſted to accompliſh delivery, in caſes of narrowneſs from diſtortion of the bones, two blades of the crotchet were recommended by Dr. Smellie. That practice is now rejected; for both blades can never be employed at once with advantage, and ſeldom with ſafety.

See Dr. Hamilton's Outlines of Midwifery, page 285 to 302; alſo Appendix, 420; and Dr. Oſburne's Eſſay on Laborious Parturition.

d Repreſents the ſciſſars proper for perforating the *Cranium* in very narrow and diſtorted *Pelviſes*. They ought to be made very ſtrong, and nine inches at leaſt in length, with ſtops or reſts in the middle of the blades, by which a large dilatation is more eaſily made.

The above inſtruments ought only to be uſed in the moſt extraordinary caſes, where it is not poſſible to ſave the woman without their aſſiſtance.

Vide Vol. I. Book III. Chap. 3. Sect. 5. Chap. 5. No. 1. Vol. III. Coll. 31, 35.

ADDITIONAL

ADDITIONAL TABLE.

NUMBER XL.

By the late Dr. THOMAS YOUNG, with improvements by Dr. HAMILTON, both Profeſſors of Midwifery at *Edinburgh*.

Among the few improvements which have been made in the obſtetrical apparatus ſince the days of Dr. Smellie, the moſt important are the alterations in the *forceps*, by which the inconveniences formerly attending the uſe of that inſtrument are obviated, and the operation is rendered more ſafe and eaſy.

In contriving theſe alterations, the intentions were, 1. That the large curves ſhould correſpond as nearly as poſſible with that of the *Pelvis*. 2. That their points ſhould be thrown forwards and made round, to prevent their hitching, or even preſſing uneaſily againſt any part of the *Pelvis* ; and likewiſe to maintain their hold of the head, whilſt it is to be brought forwards in that curved line of direction which nature obſerves. 3. That an inverted curve ſhould be made towards the joints, whereby the *Perinæum* may be ſaved from injury, the extracting force rightly conducted, and the handles at the ſame time kept from preſſing uneaſily on the inferior and anterior parts of the *Pubes*. 4. That their ſubſtance ſhould be reduced as much as poſſible, ſo that they are not made flexible, or ſo thin at the edges as to hurt the part. 5. That their clams be made to preſs

equally

Plate XL.

Fig. 2.

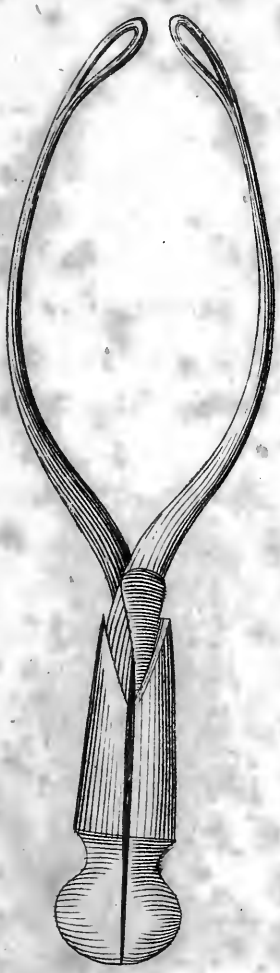


Fig. 1.

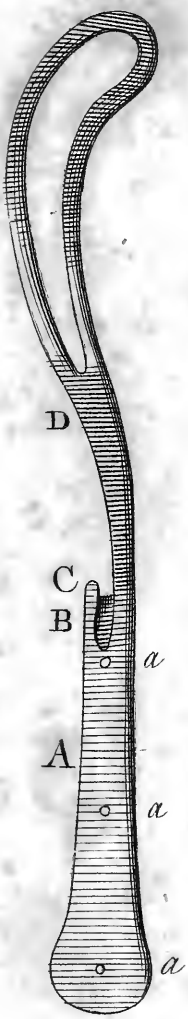


Fig. 3.

equally on the child's head, and ſpread gradually from the joint, ſo as not to dilate the *Os Vaginæ* too ſuddenly. 6. That the clams be of a due breadth, with the outer ſurface a little convex, and extremely ſmooth, that they may not preſs uneaſily or hurt the woman. 7. That their length be ſuch as can be applied ſafely and commodiouſly within the *Pelvis*, and at the ſame time ſuit the different ſizes of the head as much as poſſible.

The inſtrument, executed according to theſe intentions, is called the *Short Curved Forceps*. It conſiſts of two blades, or parts; each of which is diſtinguiſhed into the handle A, the joint B C, and the clams D E. See fig. 1. which repreſents one of the blades before it is bent into its perfect ſtate: *a a a* are three holes for admitting ſcrews to fix the wooden handle.—Fig. 2. ſhows the inſtrument finiſhed and locked, in which ſtate it meaſures about 11 inches; and, when properly made, weighs about 11 ounces troy. The clams muſt be covered with the beſt Morocco leather, ſhaved thin, moiſtened with water, and ſewed on with waxed ſilk.

N. B. Several inconveniences, both in the introduction and conſequences, having been found to attend the uſe of the forceps with the clams *covered*, practitioners at preſent very generally prefer thoſe of poliſhed ſteel.

Fig. 3. A catheter, with a ſmall curve towards the point, which is better adapted to the female *Urethra* than the ſtraight. It may be perforated with 8, 12, or 16 holes in rows, as here repreſented,

ed, and terminated by a ſlight, very ſmooth, rounded, or oblong knob. The length ſhould be nearly ſix inches, and the diameter not trifling.

Fig. 4. The perforators of Dr. Denman, now employed by many practitioners, in preference to thoſe of Dr. Smellie, *with the angular reſts rendered ſmoother and more rounded.* If the long ſciſſars of Dr. Smellie ſhould be ſtill retained in practice, the ſharp edges ought to be removed; they ſhould have, like thoſe of Dr. Denman, a degree of curve towards the points, and be provided with blunt knobs, inſtead of the angular reſts, which expoſe the patient to the hazard of having the parts wounded or lacerated.

See Dr. Hamilton's Outlines of Midwifery, page 290.

N. B. With a view to ſave the child when the mother is in danger, but the head too high for the *common ſhort forceps*, and alſo to obviate an inconvenience complained of by many practitioners, of *their* locking within the *Vagina*, the long forceps of Mr. Leveret of Paris, Doctors Smellie and Leak of London, and of Mr. Pugh of Chelmsford in Eſſex, have been invented. The lightneſs and neatneſs of conſtruction of Dr. Leak's, with juſtice, entitle them to the preference.

Fig. 5. The blunt hook, as preſently uſed, with a ſwell in the middle, by which a more ſecure hold can be taken, and the extraction accompliſhed with more ſafety and ſucceſs, than with the ſtraight hook.

F I N I S.